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Pacific Technical Section Meets at Tacoma

R. S. Wertheimer of the Longview Fibre Co., Longview, Wash., Is Elected Chairman of the Section at the First Fall Meeting Held at the Winthrop Hotel—P. H. Glatfelter, President of the Technical Association of the Pulp and Paper Industry, Attends—Representative Technical Men Deliver Addresses on Timely Subjects

[FROM OUR REGULAR CORRESPONDENT]

TACOMA, Wash., October 11, 1929.—R. S. Wertheimer of the Longview Fibre Company, Longview, Washington, was elected chairman of the Pacific Coast Section of the Technical Association of the Pulp and Paper Industry at its first fall meeting held at the Winthrop Hotel, Tacoma, on October 5. R. Reed of St. Helens Pulp and Paper Company was elected vice-chairman, and B. K. Benson of the University of Washington was reelected secretary.

Although this was the first convention held by this group since its organization a few months ago, it had the enterprise and spirit of cooperation which signifies real progress.

C. R. P. Cash, who has led the activities of the association since its organization, presided at the sessions. J. G. Newbegin mayor of Tacoma, gave the address of welcome and presented the key of the city to the national president, P. H. Glatfelter who was the honor guest of the occasion.

The high light of the gathering was the address of President Glatfelter and the message which he brought was full of helpful suggestions and inspiration. He stated that those who are interested in the future of the pulp situation could look forward to the time when a uniform standard for measuring the strength of pulp will be worked out.

President Glatfelter brought messages from the national association and a report of progress in many lines that were of help and inspiration to the western group. The Pacific Coast section also welcomed enthusiastically the members from Canadian points who also contributed a great deal to the success of the program.

P. H. GLATFELTER, PRESIDENT OF TAPPI, RECEIVING THE KEY OF THE CITY FROM MAYOR NEWBEGIN

Although this was only a one-day convention the sessions were full of new ideas and of encouraging report on research work and other phases of the pulp and paper development. So successful was this meeting, however, in point of interest and enthusiasm, that the suggestion has already been mentioned of holding more than a one-day session in the future. This will be decided by the executive committee.

Next Meeting at Longview

At the business meeting it was decided to hold the next convention of the Pacific Coast Section at Longview, Wash.

The program was carried out as planned with the exception that J. L. Culbertson of Washington State College, was not able to be present to present his paper on "Pulp from Cornstalks and Straw."

The lecture of Prof. W. F. Seyer of the University of British Columbia, Vancouver, was accompanied by slides and gave a vivid picture of what is being accomplished at McGill University in the lines of research laboratory work and in training men for positions in the pulp and paper industry.

E. P. Cameron of the Forest Products Laboratory of Montreal, gave an excellent talk also on what is being done in research work in eastern Canada. These two papers covered a large scope of Canadian activities in the paper field, both being of vital interest to the Pacific Coast pulp and paper interests.

Dr. W. Hirschkind of the Great Western Electro Chemical Company of California, presented a paper on "The Chlorine Method of Pulp Production" in which he discussed latest results in research.

The address of George H. Horne of the Western Precipitation Company, Los Angeles, on "The Determination of Stack Losses in Sulfate Mills" was explicit and practical and Mr. Horne had equipment with him by which he could demonstrate the points brought out in the talk.

C. M. Baker of Madison, Wis., engineer of the American Pulp and Paper Association, spoke at the afternoon session on "The Utilization of Pulp and Paper Mill Wastes," and he was also the principal speaker at the banquet in the evening at which time he talked on the more general subject of "Remedial Measures for the Control of Stream Pollution," a topic which it was hoped would reach the public, as the banquet meeting was open to anyone interested in the program.

Mr. Baker also has been speaking in other northwest cities. On Monday after the Tacoma convention he addressed the luncheon meeting of the Portland Chamber of Commerce on stream pollution. He has also been given some good newspaper publicity on his addresses which have also been of an educational nature.

Arthur B. Green, a consulting engineer of Portland, Oregon, explained the control instrument on the beater which he has invented.

"News Print and Ink Penetration" was a subject covered comprehensively by H. Andrews of the Powell River Company, Ltd., Powell River, B. C. Kenneth Shibley of the California Filter Company, Seattle, discussed in his paper "Pulp Mill Water Supplies" in a very able manner.

"The Effect of Varying Concentrations of Sodium Sulphide for Sulfate Pulp" was the subject of the address of Prof. W. L. Beuschlein of the University of Washington, and was numbered among the fine contributions of the program.

Prof. F. H. Thurber, of Oregon State College, told of the research work being done in his department of chemical engineering in the analysis of Oregon woods and the waste products from lumbering. His subject was "By-products of Pulp Woods."

The banquet held at 6:30 in the Crystal Ball Room of the Winthrop Hotel was given in honor of President and Mrs. Glatfelter. Other honor guests were Mr. and Mrs. K. C. Mayberry. Mr. Mayberry is with the Washington State Fish Commission.

Those Who Attended

P. H. Glatfelter, Spring Grove, Pa.; George W. Peavy, Forestry School, Oregon State College; Frank S. Baker, Cascade Paper Company, Tacoma; E. C. Gilbert, Corvallis; George F. Parker, Corvallis; T. Greysbeck, Seattle; James Nelson, D. H. Vanwert, Tacoma; Theo Gibber, Seattle; R. J. Schadt, Hawley Pulp & Paper Company, Oregon City, Ore.; W. T. Kelly, Grays Harbor Pulp and Paper Company, Hoquiam, Wash; Ed P. Moore, Union Bag and Paper Co., Tacoma; Elliott H. Woodruff, Shaffer Box Company, Tacoma; J. D. Hull, Seattle; L. K. Bickell, Port Alice, B. C.; E. P. Cameron, Montreal; W. H. Grant, Anacortes; Arthur B. Green, Portland; Geo. Lieman, Tacoma; Alex Beatt, George Gladding, Tacoma; Ned Menzies, W. S. Tyler Company, Seattle; F. W. Hooper, Ocean Falls, B. C.; M. J. Muckey, Tacoma; F. H. Thurber, Corvallis; J. M. Shedd, Everett; Chas. Bockroft, Tacoma; L. S. Wertheimer, Longview; George H. Horne, Los Angeles; W. S. Hodges, Appleton Iron Works; D. E. Cousins, Union Bag and Paper Company, Tacoma; A. R. White, Manager Tacoma Electro-Chemical Company; L. L. Zodtner, Tacoma; C. M. Holt, Pennsylvania Salt Manufacturing Company; Ray Smythe, Willamette Iron and Steel Company; L. R. Wood, Union Bag and Paper Company; C. B. Everett, Puget Sound Pulp and Timber Co.; John Fulton, Oregon State College, Corvallis; F. C. Brewer, Tacoma; F. H. Andrews, Powell River Company, Ltd.; Kenneth Shibley, California Filter Company, Seattle; A. J. Hooker, Tacoma; W. W. Griffith and Joseph Hedin, Union Bag and Paper Company; A. S. Hooper, Ralph C. Brown, Geo. Forrester, Donald Meyers, C. R. P. Cash, Harold T. Fretz, Cascade Paper Company; Walter McGinnis, Smith and Valley Iron Works; Thomas Lovett, Paper Mill Equipment Corporation; Fred Sievers, Sidney Roofing Company; E. J. Darrow, Tacoma; F. C. Shaneman, San Francisco; C. M. Baker, Madison, Wis.; W. L. Beuschlein, A. J. Gilardi, H. K. Benson, Bill Brown, Chas. A. Newhall, L. E. Thorpe, Seattle; Wm. E. Breitenbach, Grays Harbor Pulp and Paper Company; P. E. Hodgdon, Munising Paper Company, Michigan; S. Norman, A. C. Silliman, Geo. Thorsen, Newberg; R. Reed, St. Helens; Myron W. Back, Spokane; Dr. W. Hirschkind, California; R. E. Chase, Tacoma; C. T. Henderson, San Francisco.

PICTURE TAKEN AT FALL MEETING OF PACIFIC COAST SECTION OF TAPPI, TACOMA, WASH, OCT. 5

Northern Paper Mills Expanding Production

New Tissue Machine Tested Out and Placed In Operation for First Time—Has Capacity of 1,200 Feet or 50 Tons Per Day—Web of 186 Inches Found Practicable — Additional Improvements Provided For In New Building Which Houses Machine

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., October 14, 1929.—A new era of production was started last week by the Northern Paper Mills, Green Bay, Wis., when its new "No. 7" tissue machine was tested out and placed in operation for the first time. The company has spent about six months getting ready for these operations. The machine was started on an output of 500 feet a minute and gradually will be stepped up to its capacity of 1,200 feet or 50 tons a day. Although it was expected that the machine would supply a web 175 inches in width, it was found after erection that a web of 186 inches was practicable. The web will slit into three rolls for transfer to the converting department.

The new machine, built by the Beloit Iron Works, is housed in a new building created by enclosing and roofing a court between wings of the other mill units. Provision was made at the same time for sufficient space to erect another machine of like size in the future. Additional warehouse, shipping and pulp storage space also have been provided in the building and improvement program, which will reach a total of half a million dollars in all. Two of the oldest paper machines in the mill will be removed from service as soon as production has reached its possibilities on the new equipment.

The Northern Paper Mills is now enjoying the best years in its history. By the erection of two large hydro-electric plants and various building and machinery improvements, production costs have been reduced, production has been increased and a new basis of stability has been attained. A merger several weeks ago with the Tuttle Press Company, of Appleton, Wis., has given the company an intensive market for its tissues for converting purposes, and more extensive jobbing outlets. The company has also built up its own sales force considerably on toilet paper, towels and other items and is making new records in the market.

Credit for the rehabilitation and development of the company rests largely on the shoulders of Judson G. Rosebush, vice president and general manager. His record in other mills which had come under his management led to his selection to tide the Northern Mills over during a critical period. His affiliation with the company attracted to it both outstanding executive ability and capital. The developments over a period of years have been steadily forward. Mr. Rosebush is also president of the Inland Empire Paper Company, Millwood, Wash., the Patten Paper Company, Appleton, Wis., the Outagamie Paper Company, Kaukauna, Wis., and the Northern Electric Company. He is vice-president of the Nekoosa-Edwards Paper Company, of Nekoosa, Wis., and is also affiliated with several lumber and timber companies and banks.

Nekoosa-Edwards' Big Shipment

Shipping records of the Nekoosa-Edwards' Paper Company were given emphasis recently when sixteen carloads of wrapping paper were attached to one freight train for dispatch to Chicago, and from there to several points. The company took advantage of the inauguration of a new fast freight service on the Soo Line to do a little advertising for itself. Large banners were placed on the freight cars telling that the train of cars of paper was made by the Nekoosa concern. Approximately 400 tons of paper was contained in the shipment.

Group Insurance for Badger Workers

Group insurance for employees has been adopted by the Badger Paper Mills, Inc., of Peshtigo, Wis. The total amount of the policies is approximately $250,000 and the contract was placed with the Aetna Life Insurance Company. Benefits include death and total or permanent disability features. The company bears part of the cost of premiums.

Rules under which group insurance is given employees of the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., were modified recently. Employees with a salary of less than $2,000 a year are now allowed to obtain an additional $1,000 of protection at a premimum rate of 60 cents a month. The acceptances of the new plan amounted to a total of $1,312,000 in insurance. The company has now more than $5,000,000 of insurance carried jointly with its employees.

Wisconsin Carton Co. Begins Production

One of Wisconsin's newest industries, the Wisconsin Carton Company, of Stevens Point, Wis., began production last week. A nine-and-a-half hour shift has been started under the direction of J. T. Mader, vice president and manager of production. The company is producing multi-colored food and merchandise cartons on its new mass production presses, folders and creasers and has begun filling orders. One complete carton unit has been installed and a sales organization has been placed in the field to book business to take up the output of this unit. The company expects to build up the demand so further equipment can be installed at an early date.

News of the Industry

Seventeen Wisconsin cities have training classes in foremanship under the state department of vocational education. Paper mills everywhere are co-operating in the movement to make their foremen more efficient and train for greater responsibilities. The list of cities includes Wausau, Eau Claire, Rhinelander, Mosinee, Wisconsin Rapids, Green Bay, Kaukauna, Appleton, Neenah, Menasha, Fond du Lac, Two Rivers, Manitowoc, Sheboygan, Cudahy, Racine and Madison. The instruction is conducted by Marion W. Smith, who is in his second year in this work. The conference method is used so that foremen may bring their every day problems to the classes for discussion.

After brief shutdowns, the sulphate mills of the Thilmany Pulp and Paper Company, Kaukauna, Wis., and the Tomahawk Pulp and Paper Company, of Tomahawk, Wis., have resumed operations. Repairs and changes were made during the recess.

Several accidents have occurred recently. Thomas Modkowski, employed by the Badger Paper Mills, Inc., Peshtigo, Wis., lost a hand when it became caught in the paper machinery. Amputation was necessary. Walter Steppke, employed by the Marinette and Menominee Paper Company, Marinette, Wis., had his right hand lacerated badly when it became caught in a calender shaft. Two fingers had to be amputated. An accident also occurred in the wood room of the Kimberly-Clark Corporation's mill at Kimberly, Wis., when Thomas Walton fractured a hip. He was struck by a log.

Osborn Paper Co. To Have New Warehouse

[FROM OUR REGULAR CORRESPONDENT]

MARION, Ind., October 14, 1929.—The Osborn Paper Company, has leased a warehouse on the former site of the Western Drop Forge plant on Railroad avenue. The warehouse is just being constructed but will be completed shortly. It will be 64 by 140 feet entirely fireproof of steel and concrete construction with a metal roof. The paper company expects to be able to use the building by December 1.

Ontario Paper Mills Only Moderately Active

While Manufacturing Activities Are Well Maintained, Fine Paper Plants Have Less Orders On Hand Than Earlier In Year—Paper Converting Business Is Registering Increases—Paper Board Mills Operating Close to Capacity—Paper Box Industry Very Busy

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., October 14, 1929.—The month of October is panning out fairly well in wholesale paper circles in Ontario. Most of the houses report increased business, particularly in the fine paper section, with a satisfactory volume of business passing, and there is a good outlook for fall trade generally in paper circles Paper consumers are beginning to buy in slightly larger quantities and while there is no disposition to put in stocks of size by the printer or any other consumer source, more money is being spent on paper lines than at any time during the summer. Book, bond and ledger papers are in good demand and orders are coming in freely for writings. Canadian made blanks and blottings are enjoying a good demand and the same may be said of coated stock and covers. The coarse paper market could do with more business, the market in that line being somewhat spotty, with the paper bag situation in as unsatisfactory a condition as formerly, due to both outside and domestic competition in which price cutting is figuring prominently.

The mill trade is only fairly active. Book paper mills have less orders ahead than they had earlier in the year and while manufacturing activities are being well maintained most of the mills report that orders are harder to get this month than last. Despite this temporary condition tonnage in most fine paper lines is being maintained and for the most part conditions are satisfactory. The paper converting trade is registering increases each month and later in the fall there should be really good business in this department. Envelope and blank book demand is increasing nicely and there is a good call for paper from the publishing and printing industries.

The light weight paper market is strong and mills manufacturing tissues, toilets and specialty lines are doing a good business. There is also a good demand for glassine, grease proof and waxing papers, with new avenues for the use of these papers opening up constantly. The paper box industry is active with many of the plants turning out Christmas stuff and a fair volume of business passing in standard lines of set-up, folding and corrugated containers. This is reflected in a satisfactory degree of activity among the board mills which are operating close to capacity.

Paper Makers Discuss Safety Matters

Institution of a comprehensive system of thorough physical examination of all applicants for employment as a potent factor in the reduction of accidents and consequently compensation costs, was proposed before the Ontario Pulp and Paper Makers' Safety Association in session at Fort William, Ont., a few days ago. Delegates to the meeting believed that some such method must be adopted if accident and compensation problems facing the pulp and paper industry of the province, together with the lumber industry, are to be satisfactorily solved. Reference to the proposed medical examination of persons before being employed was also made by Dr. W. J. Gunne, of Kenora, and Dr. J. C. Gillie, of Fort William, identified closely as physicans and surgeons with the industry. Frequent medical examinations of men employed in the camps of pulp and paper companies should also be made, both physicians agreed, to avert possible dread of contagious or dangerous diseases. W. L. Halford, vice-chairman of the Workmen's Compensation Board of Ontario, spoke on "Compensation," and A. E. Wold, safety engineer of the Backus-Brooks Company, gave an address on "Lost Time." W. C. Miller, Chief Sanitary Inspector for Ontario, also delivered an address on matters connected with his department.

John T. Hornibrook Passes On

Prominent in paper and fraternal circles in Toronto for over fifty years, John T. Hornibrook, secretary-treasurer of Brown Bros., Ltd., manufacturing stationers and wholesale paper dealers in that city, died following a brief illness, at the age of 80 years. Born in Ireland, he came to Canada as a child locating in Toronto where he received his early education. As a young man he began his commercial career with Brown Bros., remaining with that firm until his death and stepping up through various stages in the company's employ until he reached the board of directors. As a young man he joined the Queen's Own Rifles and with that unit took part in the quelling of the Fenian Raid of 1866. He was a former president of the Canadian Militia Veterans' Association, of the Veterans of '66 Association and an active member of the Q. O. R. Association. During the war period he was active in recruiting and in caring for the comfort and welfare of the men overseas. He is survived by one daughter and three sons.

Notes and Jottings of the Trade

Foundation work has been started for a $15,000 storage warehouse for Bradshaws Ltd., wax paper manufacturers, corner of Symington avenue and Adrian avenue, Toronto, by W. J. Trimble, 73 Adelaide street West, who holds bulk contract. Plans call for a single story building, brick, steel and concrete construction. R. D. Bradshaw is secretary-treasurer and E. A. Bradshaw, manager, of owner-company. The concern has been operating in Toronto for some years and has made considerable progress in the paper manufacturing field.

H. J. Rowley, Ph.D., director of research for the Abitibi Power and Paper Company, at Iroquois Falls, Ont., has returned from a tour of the Maritime Provinces, which included a visit to his parents at West St. John, N. B., and his alma mater at Sackville. Dr. Rawley graduated with honors at Mount Allison University, Sackville, and at Queen's University he won a Bachelor of Science degree with honors in metallurgical and chemical engineering. He is doing valuable work for Abitibi at Iroquois Falls.

Investigating the Canadian paper market in general, John Horsburgh, director of Wiggings, Trape & Co., Ltd., London, Eng., one of England's largest paper concerns, was a visitor to Toronto and district a few days ago. He visited a number of the mills and some of the wholesale houses in his quest for information concerning the pulp and paper industry in the Dominion.

Since the beginning of the year the Port Alfred Pulp and Paper Corporation, Port Alfred, Que., has been making insul board, a laminated wall board that is made in no other mill. It is made from ground wood screenings and manufacture is handled through Canada Power and Paper Company, with sales through Building Products, Ltd., of Ville La Salle.

A visitor to a number of the Canadian paper mills recently was Carl Bauer, general manager of Kuebler & Niethammer, of Saxony. He was accompanied by his two sons and by C. C. Crucius of the American Voith Contact Company, New York.

A Dominion charter has been granted Fraser Realties, Ltd., with a permissive capital of $15,000,000 in $100 units. Archibald Fraser, president of Fraser Companies, Ltd., is president of the new company, which, it is said, is in no way connected with the older concern. The object of Frasers Realties is to deal in timber limits, pulpwood, water privileges and power, and to carry on a lumbering business.

P. C. Austin, sulphite superintendent of the Bathurst Power and

Paper Company, Bathurst, N. B., whose health has not been good, has been spending some time in Toronto recuperating.

Premier Ferguson recently laid the foundation stone of the new laboratory building of the Ontario Research Foundation in Queen's Park, Toronto, an institution in which the Ontario pulp and paper industry will have a part. The funds already subscribed for the purposes of the Ontario Research Foundation amount to nearly $4,000,000.

A number of Toronto paper houses in Toronto are on the list of creditors of the Sutherland Print Shop, Adelaide street West, which went into liquidation this week. The company is being operated by a trusteeship and a meeting of creditors will be held in a few days. The paper bills are not heavy.

Driving of piles has been completed and pouring of concrete footings has been started by the company which holds contracts for erection of a $75,000 addition to the plant of the Canadian Paperboard Company, Ltd., at the foot of Carlaw avenue, Toronto. Plans by Kerry & Chase, Ltd., consulting engineers, Confederation Life Building, Toronto, call for a single story addition, concrete and insulex covered frame construction.

The last number of "Presenting Printing," a series of direct-mail pieces being mailed by Provincial Paper, Ltd., has an elaborate cover in colors and features Oxford Book in super and English finish which, it is set forth, provides a surface for every printing need. The value of illustrations is demonstrated by a series of fine photographs, line engravings, etc., all of which has given the booklet a rich apeparance.

Dominion Boxboards, Ltd., 130 Duchess street, Toronto, have had plans prepared for a large storage shed to be built on its premises on Carton street, and work will shortly proceed.

The book and writing paper section of the Canadian Pulp and Paper Association held its regular monthly meeting at the Royal York Hotel in Toronto this week and discussed problems of manufacture and sale of fine papers. A number of the mill men from Quebec and Ontario were present.

The United Paper Mills, Ltd., Toronto and Hamilton, Ont., have mailed out a neat sample book of a new line of non-coated Franklin Inlaid, a new creation of Bristol, cover and card stock. The paper folds with grain without scoring; prints half-tones; is easy on type and plates and embosses well, it is claimed. The samples sent out are all printed and are designed to demonstrate the general utility of the stock.

The Canadian Customs Department have sent out advices to the effect that greeting cards having thereon a blind embossed or die-stamped indication of the country of origin, satisfactory as to legibility and wording, and in a conspicuous position, may now be imported into Canada as complying with the Customs Tariff Act.

An Ontario charter has been granted the Florence Paper Company, with headquarters at Ottawa, to buy, sell and deal in all kinds of scrap paper, pulp and scrap rags, etc. Among the original incorporators of the company are H. P. Hill, A. C. Hill and G. F. McLaren, all of Ottawa. The authorized capital is 1,000 shares without nominal or par value.

Paper Mill Employment

Employment in paper and pulp mills and in paper box factories of the country increased in August compared with July according to the Bureau of Labor Statistics, Department of Labor.

Reports were received by the Bureau from 211 paper and pulp mills which gave their July employment at 58,753 increasing in August to 59,110 an increase of 0.6 per cent. The payrolls in these mills also increased from $1,573,117 in July to $1,623,066 in August an increase of 3.2 per cent.

The Bureau also received reports from 175 paper box plants which gave their July employment at 18,327 increasing in August to 18,503 an increase of 1 per cent. The payrolls in these plants too, increased from $420,415 in July to $423,381 in August an increase of 0.7 per cent.

Change in Rule in Secret Rebates

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 16, 1929.—Following a formal request from the paperboard industry the Federal Trade Commission has changed the status of a rule of secret rebates adopted at a trade practice conference of the industry. The rule in question as adopted by the industry with an appended note, reads as follows:

The payment or allowance of secret rebates, refunds, credits or unearned discounts, whether in the form of money or otherwise, or extending to certain purchasers special services of privileges not extended to all purchasers under like terms and conditions, is an unfair trade practice.

(Note): This rule applies to such practices as the purchase of box clippings from customers at abnormally high prices, secret agreements to deliver board or boxes of a higher test of grade or of a greater caliber than called for by contract, the making of split or deferred deliveries when the contract calls for a single delivery, the making of excessive transportation allowances, and other similar evasions.

At the request of the industry the commission has reconsidered and rescinded its action of January 7, 1929, in receiving the rule and the note as an expression of the trade along with other Group II rules, and deleted the note to the rule and transferred the rule itself without the note to Group I as a separate rule condemning an unfair method of competition.

Application for the change was made by the board of directors of the Trade Practice Administration of the Paper Board Industry. The rule was adopted by the industry at trade practice conferences held in Chicago, November 3, 1928, and in New York, November 23, 1928.

Boston Paper Market More Active

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., October 14, 1929.—More activity developed in the paper market here than during the previous week, according to estimates. Conditions as a whole have been at least fairly good in the fine paper houses. Coarse paper has been moving steadily, in average volume, with prices firm.

Some of the trade look for advances in box board in the immediate future, but increases have been predicted so many times of late without materialization that a number of the trade give little or no credence to this talk. Current prices, however, are firm. As usual at this time of the year board mills are getting tonnage in a normal volume, and it is intimated that possibly more tonnage will be placed if values begin to rise.

Discussing the paper stock market, a dealer says conditions are "in statu quo," but that he looks for improvement later, possibly in the latter part of the month. Values of old papers are unquotably changed. In bagging, domestic manila rope is quotable at 4.75, compared with a previous price to 4.25. Transmission rope is at 3.00, against a range of 2.25 to 2.50, previously quoted. New domestic rags are unchanged. In old domestic rags, repacked thirds and blues are quotable at 2.25 to 2.50, compared with a flat 2.50 for the former price. In foreign rags, new No. 1 shirt cuttings are at 9.00 to 9.50, compared with a prevous range of 9.00 to 10.00. Old fustians have advanced, being quoted in a range of 1.90 to 2.00, as against 1.90 the previous week.

New Combustion Engineering Catalog

The Combustion Engineering Corporation, of 200 Madison avenue, New York, have just published a General Condensed Catalog of Fuel Burning and Steam Generating Equipment. Illustrated profusely, the pages present brief descriptions of the more important fuel burning and steam generating equipment manufactured by the Combustion Engineering Corporation. The catalog also contains a complete list of Combustion products.

Demand for Paper Livelier in Philadelphia

Bulk of Business, However, Consists of Small Lot Orders For Immediate Requirements—Mill Representatives Are Booking Satisfactory Amount of Wholesale Orders — Fine Papers Are Moving Into Consumption In Good Volume—Specialties Are More Active

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., October 14, 1929.—Livelier demand for paper generally keeps the dealers busy but as urgent needs of the consumer require small lot deliveries the paper distributors are confronted with the problem of conducting present business at very narrow margins of profits or with inroads on profit by overhead charges of handling small lot orders. There is much complaint over the hurried small lot orders and while activity is at its height for the current season it is not of the type that brings results in cold cash to the paper merchants, as a whole.

Wholesale paper merchants and mill representatives are enjoying a satisfactory amount of business, with larger volume shipments to the consumers of fine papers. All grades of book, high grade writing and cover papers are moving in satisfactory bulk. Specialties, such as towels, drinking cups, gummed tape, and box makers' supplies, are more active than wrapping paper and kraft or other standard grades of papers. Glassine papers are also among the grades that just now are drifting into Christmas buying. Cellophane has become a livelier competitor of tissue, wax, greaseproof and glassine, as it grows in favor among many industries heretofore using the older commodities. There is also growing usage for the many substitutes of glassine among the industries formerly consuming large volume of cheaper grades.

Paterson Parchment Paper Co. Packets

Among the manufacturers of parchments who have been campaigning on vegetable parchments for household use is the Paterson Parchment Paper Company, which recently gave an entire page to the use of Patapar in metropolitan newspapers and other home journals. Patapar is the package style of marketing the vegetable parchments for household consumption and recently has been placed on the market in cut sheets handy for cooking purposes. Its broadside announcement in the press has created an interest on the part of the homekeeper and cook, and local dealers are now enjoying improved demands for these papers. Its packing in sheets for household has sanitary advantages that appeal to the housewife and other consumers for cooking purposes or for wrapping of food commodities.

Mill Superintendents to Attend Meeting

Local mill superintendents will journey to Washington, D. C., to attend the joint meeting of the Pennsylvania, New Jersey and South Eastern Divisions of the Mill Superintendents Association to be held at the Wardman Park Hotel, October 18 and 19. Those who will attend from the local mill industry are James Garfield Ramsey, Jessup & Moore Paper Company, Wilmington, Del.; Charles Ellis, Downingtown Manufacturing Company, Downingtown, Pa.; Ward Smith, retired mill superintendent of the American Container Corporation; James B. Clark, McDowell Paper Mills; Vice President Ralph Maier, Manager William Maule and superintendents and John Bingham, Dill and Collins Paper Company; Edward Blosser, Scott Paper Company, Chester, Pa.; Frank Winslow, manager of Paper Mill Department, Philadelphia Branch General Electric Company; Jack Wyeth, superintendent, and Hyman Joachim, mill manager, of the Container Corporation of America. There will be reports of the activities and routine business of the Pennsylvania and New Jersey Divisions given by Charles Ellis, of the Downingtown Manufacturing Company, secretary of the local mill group, and by Edward Blosser, of the Scott Paper Company, who is chairman of the Pennsylvania and New Jersey Division, composed of superintendents from this city, the State, New Jersey and Delaware.

Paper Trade Associates Journey to Conventions

Making a joint attendance at the two important trade conventions which were held last week, Quaker City associates of the paper industries took in the meeting of the National Paper Trade Association held in Chicago and then stopped off later in the week to attend the meeting of the Direct Mail Advertisers Convention, which held its sessions at the Statler Hotel in Cleveland the three following days. Those from the Philadelphia trade who journeyed to Chicago were: President Simon Walter, of the Philadelphia Paper Trade Association, head of S. Walter, Inc.; Leonidas Beck, Charles Beck Paper Company, delegate from the Fine Paper Division, and T. H. B. Smythe, delegate from the Wrapping Paper Division, of the J. L. N. Smythe Company; N. A. Considine, Paper House of Pennsylvania; W. S. Wilcox, Wilcox, Walter, Furlong Paper Company, vice president of the Philadelphia Paper Trade Association; Charles McDowell, McDowell Paper Mills; George W. Ward, D. L. Ward Paper Company; H. S. Foster, advertising manager, A. M. Collins Manufacturing Company, and L. F. Supple, Whiting Patterson Company; The D. L. Ward Company, Paper House of Pennsylvania, Dill and Collins Company, Reading Paper Mills. P. H. Glatfelter Company, W. C. Hamilton and Sons, Jessup and Moore Paper Company, Curtis and Bros. and the A. M. Collins Manufacturing Company were represented at the Direct Mail Advertisers Convention in the exhibits of the local paper mills and distributive houses.

Jessup & Moore Paper Co. Wins Court Contest

The Jessup & Moore Paper Company were upheld in the appeal to the Supreme Court of Pennsylvania sitting at Pittsburgh, Pa., in the early days of October on the claim made against the Bryant Paper Company for the sum of $94,671.49 on a contract made in 1920 for delivery of soda pulp throughout that year. The granting of the claim to the Jessup & Moore Paper Company followed its appeal to the Supreme Court for a reverse judgment entered against the company in favor of the Bryant Paper Company by the Philadelphia County Common Pleas Court on January 1, 1927. The cross appeal of the Bryant Paper Company was dismissed by the higher court. The controversy between the paper concerns resulted from the failure of the Bryant Paper Company to follow out the terms of a contract made for the delivery of soda pulp over the term of the year of 1920. It was at that time that the paper industry and many other industrial enterprises were passing through the reaction of the post war period when prices were declining and stocks were being liquidated from war time inflation. The Bryant Paper Company refused to receive the pulp delivered to its plant at the rate of 200 tons per month and in turn was sued by the Jessup & Moore Paper Company in the Common Pleas Court of this city, judgment having been given in favor of the Bryant company. An appeal was made to the State Supreme Court and the decision of the lower court reversed in favor of the appellant.

Perseverance Paper Mills Adjustment

Following the closing of the Perseverance Paper Mills this summer after bankruptcy proceedings had been instituted against the owners, an adjustment of the financial difficulties has been made through the U. S. District Court of Trenton, N. J. While the Perseverance Paper Mills are located at Lambertville, N. J., the

executive offices of the president, George A. Leavitt, were located in this city in the Widener Building and have since late this summer been closed. Under the bankruptcy proceedings the mills were purchased at receiver's sale by the Buckley-Dunton Company of New York, creditors of the mills to the extent of $27,500. Harry A. Jacobs was appointed trustee in the bankruptcy proceedings on August 14. There was a first mortgage against the plant for $20,000 and a second mortgage of $5,750. The mills were purchased at the sale for $62,250 and interest on the mortgage liens. The creditors of the mills were, besides the Buckley-Dunton Company, A. L. Detwiler, $6,000; G. W. Van Artsdale, $3,000. The Franklin Paper Company, of which Harry A. Jacobs is president, were former owners of the Perseverance Paper Mills, but have not been connected with the ownership since a year and a half ago, according to statement made by the local paper house owners. While the mills are now closed it is understood that the new owners have had many inquiries by others who are desirous of taking over the plant and again resuming operations. The Perseverance Company improved and remodeled the mills and equipment in an effort to modernize the plant and devote it to the manufacture of grease proof and glassine papers.

Thomas W. Price Co. Honors Employees

Honors for those linked with the Thomas W. Price Company for half a century were conferred at the annual outing of the firm held at the Brookline Square Club at Brookline on Saturday. While the associates of the employees so honored their co-workers the staff of 45 joined in the tribute paid to Thomas W. Fort, head of the firm, who rose from the executive staff of the company to be its president during the fifty years that he has been connected with the company, and to John Baker Tuttle, who worked along with him during the time the head of the company was absent owing to illness which confined him to his home. His son and associate in the business, Norman W. Fort, accepted the bouquet of flowers and handsome umbrella which was presented to both of the honored guests and expressed his deep appreciation of the gift and tribute and that of his father, stating that regrets had been sent by his parent because of his inability to attend in person. Mr. Tuttle, who was also recipient of the memento, gave hearty words in his response to the tribute paid by the workers. Theodore Johnson was toastmaster at the dinner served to the members who comprise the Vici Club, the social organization of the firm. Officers elected to the club were John Baker Tuttle, president; Joseph R. Lomabaugh, vice president; J. Harry Werner, treasurer, and Willis Benner, secretary. During the dinner there was chorus singing with Daniel Hess at the piano and W. W. Simmons leading the songs. Solos were rendered by W. W. Simmons, Harry J. Smith and Mr. Simmons while humorous recitations and dramatic readings were given by Helen Scheerer Simmons, his daughter, and noted artist in her profession.

George W. Ward Addresses Ad Convention

George W. Ward, head of the D. L. Ward Company, who is affiliated with the Direct Mail Advertisers Association, and attended the meeting held in Cleveland last week, presided at the Friday afternoon session at the Hotel Statler. On the speakers' list with Mr. Ward was Rolland C. Ayres, of the Zellerbach Paper Company, of San Francisco, who gave an interesting discourse on paper in relation to direct mail advertising.

Huff Paper Company Picnics

Staff employees and the officers of the Huff Paper Company, Denckla Building, journeyed to Valley Forge to spend the past Saturday holiday in a picnic and outing, surrounded by the beauties of the historical spot and scene of the winter quarters of General Washington's army. There were fifty members of the forces in the group who joined in the picnic spread on the hilltop near the Valley Forge Cathedral and they enjoyed the many games and contests on the diamond between the baseball teams composed of office staff players and those of the Sales Team represented by the salesmen. As rooters for both teams cheered the players the Office Team, captained by Harry Donnelly, defeated the Sales Team, headed by Walter Taney, with a score of 11 to 7. President S. L. Warren, of the Huff Company, greeted his associates at the dinner hour in a word of welcome on behalf of his fellows in the official family of the firm.

John C. Sheehan with Garrett-Buchanan Co.

John C. Sheehan, who for many years has been associated with the Philadelphia paper trade as envelope specialist, is now linked with the Garrett-Buchanan Company on its sales staff. He joins the Garrett-Buchanan Company after 28 years' association with the Charles J. Cohen Company. He will continue to specialize in envelope sales with the Garrett-Buchanan Company, covering the Philadelphia and surrounding territory for his new concern.

Frank Winslow at Mill Conventions

Frank Winslow, who is well known in the Philadelphia trade as the manager for the Southern and part of the Eastern Division territory for the General Electric Company, making the paper mills his specialty, has returned from attendance at the TAPPI meeting held in Richmond, Va., and Washington, D. C., and is now planning to greet his associates in the paper trade at the Mill Superintendents Convention for the Pennsylvania and New Jersey and Southern Divisions to be held in Washington, D. C., October 18 and 19. He will spend the intervening time in a brief respite from duties and vacation trip to Canada, motoring to Toronto and Montreal before making the convention in the Nation's Capital.

Paper Men Return From Foreign Points

T. W. Coar, who has been summering in Germany, is back at his desk at the Paper Manufacturers Company, 6th and Willow streets.

Leonard Raymond, of the Raymond and McNutt Company, who has been spending the past few weeks in the West Indies, will return to his desk at the headquarters of the company in the Sheridan Building this week.

W. G. Carey, who has been general manager of the Container Corporation of America, and who has been in Europe for the past two months, will return here next month but will not join his old firm as he has accepted another position with the Yale and Towne Company, local manufacturers. He will become assistant to the vice president of the Yale and Towne Company.

Howard W. Taylor Back from Europe

The trade greeted Howard W. Taylor, president of W. C. Hamilton & Sons, fine paper manufacturers, of Miquon, near Philadelphia, upon his return to Philadelphia on September 26 following a two month sojourn in Europe where he went to recuperate his health. He has returned much improved after a journey through England and France.

Import Representative Returns

John W. Sutcliffe, in charge of the foreign office of the Import Committee of the American Paper Industry, returned to the United States on the *Berengaria* last week, after spending nearly a year in an investigation of paper making conditions in all the important European paper making countries.

Although he came back to the United States primarily for a series of conferences with the staff at the home office of the Import Committee, arrangements are being made for him to visit the paper making sections of this country and provide the American mills which are helping support the Import Committee with first hand information as to conditions abroad.

Many of the mills requested such conferences, believing that they could improve their own knowledge of future marketing and manufacturing prospects in this country by a better knowledge of the situation abroad, and the potential competition both in this country and in America's export market.

National Paper Trade Association Convenes

Annual Fall Meeting of Paper Merchants at Congress Hotel, Chicago, Attracted Excellent Attendance From All Sections of Country—Sessions Characterized by Much Enthusiasm and Invaluable Accomplishments—Interesting Addresses and Discussions

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., October 12, 1929—If an organization is as strong as its members then the National Paper Trade Association and its allied associations should go a long way. Competing for attention with the World's Series between the Cubs and the Athletics, the members of the association put temptation aside and, for the most part, attended meetings at the Congress Hotel, throughout October 7, 8 and 9, that were characterized by much enthusiasm and many unattainable accomplishments. Reports have it that no small credit for the meeting should go to Frank Floyd, secretary of the association, and to the executives of the allied groups.

Fine Paper Division

Speaking of the Fine Paper Division first, the Monday, October 7, meetings were pried open by a meeting of the Central States Paper Trade Association at 9:30 in the morning, this general opening meeting being followed by a meeting of the important Survey Committee under the chairmanship of O. F. Marquardt, of Marquardt, Blake & Decker, New York. A get together of administrative and executive committees in the afternoon was followed by a dinner of the Western Paper Merchants Association in the evening. At this dinner, L. E. Phelan, of the Detroit Association of Credit Men, and T. K. Cree, of Alling & Corey, spoke.

The meeting of the Fine Paper Division in the Forentine Room of the Congress on Tuesday morning was well attended and characterized by a program including short discussions on subjects of interest to fine paper merchants. The fine paper program on Wednesday, October 9, included a general meeting with the Wrapping Paper group in the morning and a very successful open Forum in the afternoon.

The Forum had for its main topic the subject of Net Profit Control. The various studies of costs were given attention and those in attendance reported a number of valuable contributions arising from the meeting.

Wrapping Paper Division

As for the Wrapping Paper Division, it got away early Monday morning with a meeting of the gummed tape committee, followed by a meeting of the survey committee under the chairmanship of R. H. Wellington, Alling & Cory Company, Pittsburgh. The Gummed Tape Conference at 10:00 a.m. Monday, October 7, was featured by the address of George Schuster, Bureau of Standards, the Department of Commerce, dealing on simplified practices in the gummed tape field. Leo S. Altholz, president of the Chicago Paper Association, appeared on the scene of the Middle States Wrapping Paper Association meeting on Monday morning and summed up the needs of that group in such excellent fashion that those present elected the Inlander-Steindler executive president of the associaion. John Daily of Pilcher-Hamilon-Daily, Chicago, was elected vice president. The offices of secretary and treasurer will be announced later. The meeting of the Tissue and Trade Customs Committee in Room 1174 of the Congress terminated the morning session.

On Tuesday morning, the kraft committee, J. C. Mallalieu, G. W. Millar & Company, chairman, and the box board committee, W. E. Ebbetts, Coy, Disbrow & Co., chairman, met at almost corresponding times. The trade relations committee, composed of all chairmen of committees, met at 11:00 a.m., Tuesday morning, followed by a meeting of the Kraft Trade Customs Conference at one in the afternoon. At 2:00 p.m. the Wrapping Paper Division met in the Florentine Room. One of the principal speakers at this program was Leo S. Altholz, of Inlander-Steindler, who spoke on the "Fundamentals of Business." Formerly a lawyer, successful in the paper industry and an inspiritional speaker, Mr. Altholz presented his own conception of the fundamentals of modern business in very interesting fashion. A Twine Conference Dinner, featured by round table discussion, concluded the days program.

The entire session closed on Wednesday morning, October 9, with a general meeting with both sections in attendance and with an Open Forum which was also shared by both the Wrapping Paper a ndFine sections. The subject for discussion was again Net Profit Control—a mighty serious subject with the paper trade.

Announcement was made at the meetings that the Paper Salesmans training Course, the result of three years' intensive work by the Paper Trade Institute, division or LaSalle Extension Institute, would be available to merchant members of the National Paper Trade Association during the latter part of October, 1929.

The officers of the National Paper Trade Association include H. W. Mathewson, Paper Supply Company, Inc., president; K. S. Warner, John F. Sarle Company, vice president in charge of Fine Paper Division; A. W. Blackman, D. F. Munroe Company, vice president in charge of Wrapping Paper Division; Charles Addoms, Miller & Wright Paper Company, treasurer, and F. E. Floyd, executive secretary.

D. F. Crocker, secretary of the Salesmen's Association of the Paper Industry, was present. Another familiar face was that of Ed Hall, Jr., formerly of Pilcher-Hamilton-Daily and now with Crown-Zellerbach. Ed was back in his old stamping grounds again—at least for three days.

New Bulletin on Automatic Control

A new bulletin on Automatic Combustion Control designated as No. 181 is now being distributed by the Bailey Meter Company of Cleveland, Ohio.

Features of Bailey Control such as, automatic readjustment of fuel—air ratio by the Steam Flow—Air Flow relation of the Bailey Boiler Meter; the maintenance of any desired excess air at any rating; and a master pressure contactor which anticipates changes in steam pressure and sends out impulses to provide for the new conditions before they actually appear, are described by this bulletin. It also explains how flexibility in both operation and application is secured through the use of selective drum switches, intermittent drive units, high speed reset clutches, and other mechanisms which make possible the absolutely safe automatic operation of dampers and fan motors in the proper sequence.

Interlocks to prevent a serious deficiency of air at high or low ratings; travel limits to protect against overtravel of dampers, rheostats, drum controllers and valves; time limits to prevent runaway conditions; handwheels for emergency operation and other safety features are covered in the bulletin.

Illustrated descriptions of Automatic Control installations in the Avon Station, Cleveland Electric Illuminating Co.; Edgar Station, Edison Electric Illuminating Co. of Boston; Somerset Station, Montaup Electric Company; and Long Beach Plant No. 3, Southern California Edison Company, make up an interesting section of this 44 page bulletin.

BIRD MACHINERY

RED INK OR BLACK?

Savings that were just a drop in the bucket a few years ago are making the difference between red ink and black on 1929 ledgers.

Are Bird Screens helping you to squeeze a profit out of the present market? Most paper makers* have found them profitable. - - -

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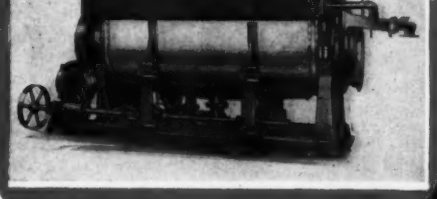

*More than 25,000 tons of paper pass through Bird Screens daily.

THE BIRD SCREEN

3213

Beauharnois Project Formally Inaugurated

Governor General of Canada Explodes First Dynamite Charge at Proposed Power House Site on St. Lawrence River, West of Montreal—Hearst Syndicate May Erect Gigantic Pulp and Paper Plant In Newfoundland, With Capacity of 1,000 Tons Daily

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., October 14, 1929.—While construction work began over two months ago on the gigantic power project of the Beauharnois Power Corporation, on the St. Lawrence River just west of Montreal, the formal inauguration of the work took place last Saturday when His Excellency the Governor-General fired the first charge of dynamite on the site of the proposed power-house, and Mgr. Andrea Cassulo, the Apostolic Delegate, blessed the construction work.

The benediction at the scene of the excavation work on the canal took place at a point beyond the city limits of Valleyfield, Mgr. Cassulo being assisted by the Bishop of Valleyfield. Following the religious ceremony, which was attended by the Governor-General and Viscountess Willingdon, the official party motored to Beauharnois.

The speakers at the two ceremonies included Viscount Willingdon, Mgr. Cassulo, R. O. Sweezey, president of the Beauharnois Power Corporation, the mayor of Valleyfield and the mayor of Beauharnois.

Hearst's Newfoundland Project

Whether rightly or wrongly, the question of the future price of newspaper and the news of the Hearst proposals for news print manufacture in Newfoundland, are linked together here by certain newspapers. There seems to be an inclination to believe that the news from Newfoundland has been timed to coincide with the discussion now going on here regarding the contract price for news print next year. It is pointed out that the Hearst interests precipitated the crisis which dealt such a blow to news print price on the last occasion, and the question is asked whether this suggested plan for making Hearst independent of Canadian sources for news print may be a move to suggest caution in any proposal for the upward revision of the prices when the annual contracts are up for consideration.

Nevertheless, it is admitted that the Government of Newfoundland might be willing to grant considerable concessions to any firm which would bring to it an enterprise of the size of that said to have been mooted by the Hearst interests. Further details of the plan indicate a project costing about $17,000,000, which would include a dam across the Gander River; cutting of a new outlet diverting the water of the system from Gander Bay into Bonavista Bay; a concession from the Government including a $15,000,000 guarantee; and timber rights in Labrador embracing about 20,000,000,000 cords.

The reports indicate that the Hearst Syndicate proposes to erect a pulp and paper plant with a capacity of 1,000 tons daily on the Island. It is understood that the project has not yet been considered by the executive council of Newfoundland, but that if the sale goes through it will involve the largest timber tract in Newfoundland situated in the northeast portion of the Island.

Agreement Likely on Pulp Prices in Japan

Despatches from Tokio, Japan, state that a price war has been in progress for some time between the Canadian pulp companies and Japanese manufacturers of the same commodity, who secure their raw material from the forests of the northern islands on Saghalin and Hokkaido.

It is now reported that an agreement is about to be reached between the two groups, by which the Japanese pulp mills will recognize a certain maximum quantity of Canadian pulp being imported, in return for which the Canadian industry will agree to a scale of minimum prices.

The Canadian mills have been supplying large quantities of pulp to Japanese at prices which the Japanese producers declare have caused them a great deal of discomfort. This would be intensified when Japan returns to the gold standard, which is now expected to take place in the not distant future.

The Japanese mills have put forth strong argument before the Government commission which is now sitting to formulate a thorough revision of the tariff, in order to bring about an increased tariff on wood pulp.

If this were successful, it would place a serious check on Canada's expanding trade with Japan, and the combination of circumstances has led to the truce that seems about to be concluded.

Paper Cellulose Determinations

A number of alpha-cellulose determinations have been made by the Bureau of Standards, Washington, D. C., on various kinds of paper, to compare the method in use at the bureau with that proposed by the American Chemical Society. These indicate that the American Chemical Society method for cellulose materials cannot be applied satisfactorily to paper without modification of the form of the sample and the method of filtering it. Owing to the resistance paper offers to disintegration into its component fibers, it was found necessary to grind the test specimen to a cotton-like form, as when the specimens are simply cut into small pieces as specified in the American Chemical Society method, the extractions are not complete.

For filtration of the finely-ground material, the use of cloth in a Buchner funnel was found necessary, instead of using a Gooch crucible as described in the American Chemical Society method. Otherwise, the two methods give test results that are in good agreement. The Bureau of Standards method is the less time-consuming.

Further study of the copper-number determination indicates that a modification proposed by Braidy gives increased accuracy. He replaces the Fehling solution with a solution of copper sulphate made alkaline with sodium bicarbonate and sodium carbonate, and heats for three hours in a bath having a temperature of 100°C. By means of this modification of the bureau method, the average deviation of individual results from the mean, in the case of fourteen samples tested, was reduced to one per cent. Without the modification the deviation was six per cent.

Rosin Producers Improve Grading Practices

Rosin producers are grading their product at the stills with more care and greater accuracy now than in the past, according to a report by V. E. Grotlisch, naval stores classifier, of the Food, Drug and Insecticide Administration, U. S. Department of Agriculture, following an inspection and contact trip which took him through all the Gulf States and Georgia.

The producers of naval stores are cooperating in every way with the Government inspectors to make the grading more accurate and to improve the quality of the rosin produced, Mr. Grotlisch said. Producers in Georgia are considering the adoption of Government rosin inspection service at their stills next season. Plans are now under way to provide for this increased demand for Government grading under the naval stores act, and to develop it to a point where it will be feasible to locate at least one Government grader at some convenient point in Georgia. The Department of Agriculture is grading all rosin made at four Georgia stills this season, the inspectors from Mobile, Alabama, doing the work.

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. . . can be produced from a great variety of materials which are now considered "Industrial Waste" of little or no value. We hope to make every "Slab Incinerator" quit turning good fibres into smoke. It is also profitable. Let our commercial laboratory make some 24" x 72" samples from *your waste*.

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CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

International Falls, Minn.—The Insulite Company, International Falls, manufacturer of insulating board specialties, a subsidiary of the Minnesota & Ontario Paper Company, same address, operated by the Backus-Brooks Company, Builders Exchange Building, Minneapolis, Minn., is arranging an expansion and improvement program at local mill, including construction of new buildings and installation of additional equipment to more than double present output. It is understood that work will be placed under way at early date. The project is reported to cost more than $125,000, with equipment.

West Springfield, Mass.—The Strathmore Paper Company, Mittineague, Mass., has plans maturing for proposed new plant unit at West Springfield, and will proceed with project, it is said, within the next 30 days. New building will be of multi-story type, reported to cost close to $150,000, with equipment; a portion will be reserved for printing plant service.

Kingsport, Tenn.—The Mead Fibre Company, a subsidiary of the Mead Pulp and Paper Company, Chillicothe, Ohio, has approved plans for the immediate construction of a new addition at Kingsport mill, reported to cost close to $45,000, with equipment; it is understood that a portion of the structure will be used for storage and distributing service.

Chicago, Ill.—The Paper Cup and Equipment Company, 367 West Adams street, recently organized with capital of 350 shares of stock, no par value, by Roy H. Morris and associates, is said to be planning early operation of local plant for the manufacture of paper cups and similar specialties. Leo J. Hulseman is also interested in new organization.

Big Island, Va.—In connection with new steam-operated electric power plant at local mill, referred to in this column last week, the Bedford Pulp & Paper Company has awarded contracts for equipment as follows: For steam-turbo generating unit and auxiliaries, to General Electric Company, Schenectady, N. Y.; boilers and accessories, Edge Moor Iron Company, Edge Moor, Del.; coal pulverizing equipment, Strong & Scott Manufacturing Company, Minneapolis, Minn.; awards for miscellaneous apparatus will be placed at an early date. New station is reported to cost close to $150,000, with equipment. Headquarters of company are in the Mutual Building, Richmond, Va.

Port Angeles, Wash.—The Olympic Forest Products Company, Port Angeles, has awarded a general contract to Christopher Kuppler, Port Angeles, for proposed new local pulp mill, to consist of two main one-story units, 150x370 feet, and 60x257 feet, and several smaller buildings. Plant will be equipped for an initial capacity of about 500 tons per day. Contract for a wharf has been let to Harry Cotton Company, Port Townsend, Wash. Entire project is reported to cost about $1,200,000, with machinery.

Philadelphia, Pa.—The E. J. Spangler Company, 1237 North Howard street, manufacturer of envelopes and kindred paper products, has filed plans for a new factory unit at 1240 North Hope street, reported to cost close to $20,000, with equipment.

Everett, Wash.—The Puget Sound Pulp and Timber Company, Everett, has awarded a contract to the Isaacson Iron Works, Inc., Seattle, for structural steel framing for its proposed local pulp mill, consisting of several units, totaling about 1,650 tons of steel. Plant will consist of digester buildings, shops, store and warehouse structures, meter house, power house and miscellaneous units, reported to cost close to $2,500,000, with machinery. The company has begun remodeling and improving of lumber mill at Clear Lake, Wash., including additional logging facilities, camp buildings, etc., estimated to cost about $200,000, with equipment. Ossian Anderson is president, and P. F. Knight, vice-president; last noted is in charge of lumber mill work at Clear Lake.

Memphis, Tenn.—Following recent award for new pulp mill unit on local site, the Buckeye Cotton Oil Company, Gwynne Building, Cincinnati, Ohio, has placed a contract with the Batson-Cook Company, West Point, Ga., for paper pulp machinery for the plant, and same will be ready for installation as soon as the building is completed. Awards for miscellaneous equipment will be made at an early date. The new mill will be located on Raleigh Road, and is reported to cost close to $250,000, with equipment. Robert & Company, Bona Allen Building, Atlanta, Ga., are architects and engineers.

Akron, Ohio—The Federal Paper and Twine Company, 180 East Mill street, has asked bids on general contract for a new three-story and basement factory, storage and distributing plant, totaling about 42,000 square feet of floor space, reported to cost about $70,000, with equipment.

Greenville, Miss.—The Chicago Mill and Lumber Company, 111 West Washington street, Chicago, Ill., has final work in progress at its new insulating board mill at Greenville, and expects to place the plant in service some time in November. The initial plant will have a rated capacity of about 250,000 square feet of finished insulating board per day, and will be developed to that point by the close of the year. A contract has been made with the Mississippi Power and Light Company for electric power and natural gas supply for the plant. Hardy S. Ferguson, 200 Fifth avenue, New York, is consulting engineer for the project, which is understood to represent an investment in excess of $350,000. Walter P. Paepcke is president of the company, which has formed a subsidiary interest to operate the mill.

Dallas, Tex.—The Southwestern Paper Company, 411-17 Lacy street, has filed plans for a one-story building to cost about $25,000, to be used primarily as a terminal for trucks, including facilities for paper storage and distributing.

New York, N. Y.—Orgler Envelope Company, Inc., 119 Wooster street, has leased space in the building at 590 Broadway, totaling about 10,000 square feet of floor space and will use for expansion. Early occupancy is planned.

Harrisburg, Pa.—The Harrisburg Paper Box Company, 1550-52 Vernon street, is running on a full capacity basis at its local mill, giving employment to a regular working quota, and will hold to this schedule for an indefinite period.

Waltham, Mass.—The Russell Box Company, Waltham, manufacturer of paper boxes and containers, has concluded arrangements for the sale of a specialty division devoted to the production of shirt envelopes, to Carman & Company, Boston, Mass., who will

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NOW YOU CAN MAKE PAPER THAT IS REALLY CLEAN . . .

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3258

operate in the future as a branch of its business. The Russell company will continue production at local plant for its other line of containers.

New Companies, Etc.

St. Louis, Mo.—The Airways Paper Company has been organized by W. C. Russell, Central National Bank Building, St. Louis, and associates, to manufacture and deal in paper products.

Brooklyn, N. Y.—Box Designers, Inc., has been formed with a capital of $25,000, to manufacture and deal in paper boxes and containers. B. N. Morton, 66 Court street, is incorporator and representative.

Watertown, N. Y.—The St. Regis Paper Company has filed notice of increase in capital from 1,100,000 to 7,600,000 shares of stock, of which 100,000 are preferred, $100 par value, total $10,000,000; and 7,500,000 shares of common, $10 par value, total $75,000,000, portion of fund to be used for general expansion.

Devon, Pa.—The Kalikman Paper Box Company, Devon, care of the United States Corporation Company, Dover, Del., has been incorporated under Delaware laws with capital of $100,000, to manufacture and deal in paper boxes and containers.

Worcester, Mass.—The Worcester Wall Paper Company has been incorporated with a capital of 1000 shares of common stock, no par value, to deal in wall paper products. Morris Goodman is president and Philip Rosenberg, 66 Dorchester street, Worcester, treasurer and representative.

New York, N. Y.—The Mott Haven Paper Stock Company has been chartered with a capital of $3,000, to deal in paper products. S. W. Cohen, 560 Melrose avenue, is incorporator and representative.

Holyoke, Mass.—The Plymouth Paper Company has been organized with a capital of $50,000, to manufacture and deal in paper goods. Walter E. Perry is president; and James C. Midgley, 174 Locust street, Holyoke, treasurer and representative.

Philadelphia, Pa.—The Oakford Box Company has filed notice of organization to manufacture paper boxes and containers. James Kelly and William Boltersdorf, 1551 South Taney street, are heads.

Chicago Paper Market In Sound Position

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., October 12, 1929.—It's been a busy week for Chicago paper merchants. The National Paper Trade Association meeting at the Congress drew an unusually large attendance of members, most of them taking an actual part in the proceedings. Despite this counter attraction, the Chicago market went along in good shape. Fall business, picking up, cheers the news print man. Newspapers increase in size as advertising becomes more timely, and production is zooming along ta take care of a healthy demand. Fine papers, too, are better, according to reports, than for a number of seasons. Orders are not unusually large but consistent. Ground woods are reported in good shape. Krafts are gaining impetus as the fall season rolls along. Wrapping paper merchants will soon feel the happy tug of the holiday season. Glassines are in demand but the profit small. When the board market finally settles its price difficulties, say reports, the board business will be in excellent shape.

Paper Hood Cover Patent Awarded

[FROM OUR REGULAR CORRESPONDENT]

FULTON, N. Y., October 5, 1929.—A hood cover made from paper for us on bottle tops invented by Wilbur Wright, of this place, has been patented by the United States Patent Department on an application filed almost six years ago. He has assigned his rights in the invention to the Oswego Falls Corporation, of Fulton. The invention is described by the patent office as "a single ply paper material hood cap carrying a non-fouling binder comprising a high melting point quick setting ingredient non-adhesive on glass, and an adhesive agent in minor proportion."

Professor Palmer Addresses Paper Salesmen

CHICAGO, Ill., Oct. 12, 1929.—The Salesmen's Association of the Paper Industry held its Annual Luncheon Meeting at the Congress Hotel, Chicago, Tuesday, October 8. Nearly 100 salesmen and executives were in attendance. They were well rewarded by an unusual address by J. L. Palmer, associate professor of marketing, the School of Commerce, University of Chicago. The first feature of the luncheon program was the presenting of a number of testimonial letters to Jim Coy, of Flambeau, ex-president of the association, for the excellent service he had rendered the association. The testimonial letters followed a presentation of a silver service set to Mr. Coy at the last golf outing of the year.

Tom Donahue, Warren Manufacturing Company, chairman of the Golf Committee, was given a set of golf clubs in recognition of his excellent services during the past golf season. The Chicago Division of the Salesmen's Association gained the second leg on the big Harbison Cup, while T. K. Davis, of the New York offices of International Paper Company, won the president's prize, offered by Sam Knode, of Albemarle. It was a golf bag with all the most modern trimmings. The *American Paper Merchant* trophy for best low net on eighteen holes was won by Harold M. Early, of the New York office of International.

Professor Palmer stressed the belief that we are now in a period of marketing revolution arising from keen competition and from wastes in distribution and in uneconomic practices which have placed the marketing costs up to where they are in many cases, equalling production costs. Mr. Palmer pointed out the ways in which the great costs of marketing were being met, first by the chain store and mail order house in the retail field, by the chain jobber and by consolidation in the wholesale field and by mergers in the manufacturing field. All engineered in an effort to cut down costs of distribution.

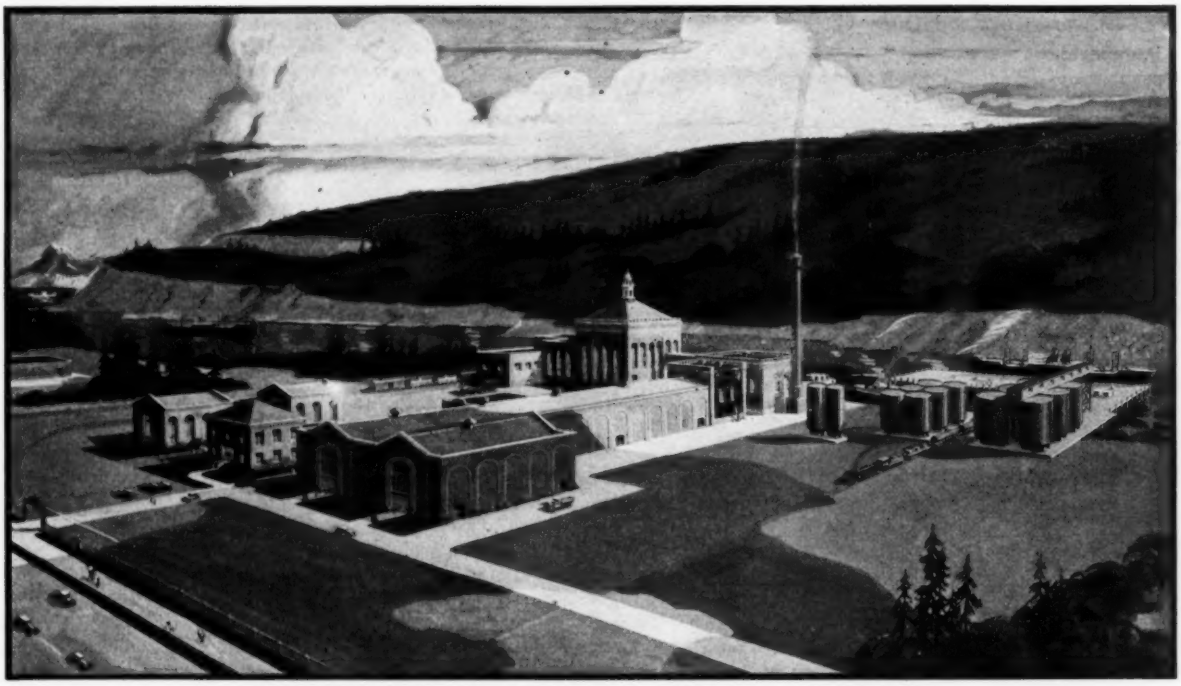
Out of all this, declared Mr. Palmer, has grown a new relationship between manufacturer and consumer, which perils the standing of many salesmen now on the road. The manufacturer, he said, was anxious to control his own outlets and to see that his own merchandise was pushed properly. He wants to do business with the retail merchant direct and eliminate the costlines of many salesmen arising from the pushing of selling all along the line from manufacturer to jobber, jobber to retailer and retailer to consumer.

Professor Palmer urged a simplification of the marketing process. He said marketing must be simplified to serve the needs of the consumer. In closing his discussion of the present trends in marketing the Chicago professor did point out, however, that there was still a great need for good salesmen of a high grade classification.

Salesmen now, Professor Palmer declared, must have a real sense of service and must be merchandising counselors understanding other problems of the buyer outside of even his own line. "The modern salesman," declared Professor Palmer, "must be a more broad gauged, well trained individual than ever before." To keep their place as salesmen while concerns in all lines are cutting out marketing costs and reducing costs of distribution the salesmen will, according to the University professor, be called upon to learn to disseminate useful knowledge, to know not only their own business of selling but other problems, and must be better trained than ever before.

W. N. Stetson Jr. Honored

BOSTON, Mass., October 7, 1929.—October 1 was the 10th anniversary of the date on which William N. Stetson, Jr., president and treasurer of the Storrs & Bement Company, first became connected with the concern. The occasion was remembered by the employes of the company in the shape of a beautiful gift of flowers placed in his office before his arrival on the anniversary morning. Mr. Stetson received many congratulations. He was formerly a salesman for the company.



New Austin-built plant of Hooker Electrochemical Company at Tacoma, Wash.

Again Austin demonstrates ability *to deliver on time*

OFFICIALS of Hooker Electrochemical Company, Niagara Falls, N. Y., decided to build a complete new plant at Tacoma, Wash., to supply chemicals for the industries of the Pacific Coast, including the pulp and paper plants of the Northwest. Speed was an important factor and Austin was awarded the contract, Hooker officials having had previous experience with Austin performance on a major plant development at Niagara Falls.

Schedule called for completion February first. Although a substantial amount of work not included in the original contract was added, Austin completed the plant on schedule. That the owners were pleased is indicated not alone by their statements but by a repeat contract for some work at Los Angeles.

As in hundreds of other large projects, this unusual performance was made possible by the Austin Method of Undivided Responsibility. The general work on this project was handled by this one capable organization, and included piping, electrical work and machinery erection, also a large amount of waterfront work such as piers, bulkhead, and roadway.

From Coast to Coast, the nation-wide Austin organization provides big business with an all-around engineering, construction and equipment service that is fast, dependable and reasonable in cost.

For approximate costs and other information on any type or size of building project, phone the nearest office, wire or send the memo.

THE AUSTIN COMPANY

Engineers and Builders ✦ Cleveland

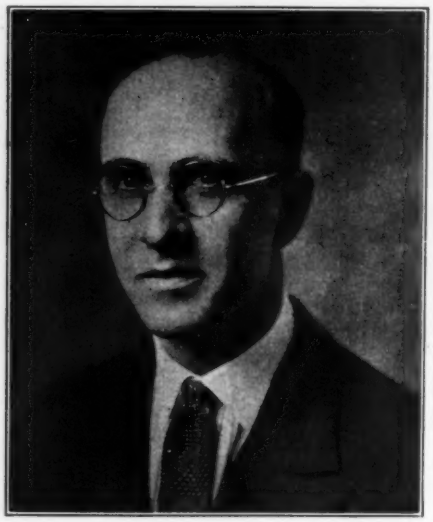
New York Chicago Philadelphia Detroit Cincinnati Pittsburgh St. Louis Seattle
Portland Phoenix The Austin Company of California: Los Angeles, Oakland and San Francisco
The Austin Company of Texas: Dallas The Austin Company of Canada, Limited

Memo to The Austin Company, Cleveland— We are interested in a ..... project containing ..... sq. ft. Send me a personal copy of "The Austin Book of Buildings." Individual ..... Firm ..... City ..... PTJ 10-17-29

Edward O. Reed Goes With Crane & Co.

DALTON, Mass., October 14, 1929.—Crane & Co. announce the appointment of Edward O. Reed, technical director of the United States Government Printing Office at Washington, D. C. as technical control director for their paper mills in Dalton and Westfield, Mass. and director of laboratory work. His appointment becomes effective October fifteenth, at which time his resignation from the important Government post will be formally accepted.

It is doubtful if any man is better known in the paper industry and allied industries on the technical side than Mr. Reed, who has been doing research, testing and technical work for the Government since 1908, in various capacities, and covering a wide range of materials which are manufactured, processed or used in these industries. Mr. Reed entered the Bureau of Chemistry, Department of Agriculture in 1908, directly following his graduation from George Washington University, as Bachelor of Science in



EDWARD O. REED

Chemistry. Until 1922 he conducted the technical work of the Bureau and from 1916 to January, 1922, he was in charge of paper investigations of the Bureau under Dr. F. P. Veitch. His work was so thorough and brilliant that he was selected to establish the first technical laboratory in the Government Printing Office by George H. Carter, the Public Printer. The laboratory, under Mr. Reed's direction, developed into an important division of the office and was designated as the Division of Tests and Technical Control and placed under his direction. This laboratory has become recognized among the paper, printing, book-binding and allied industries as a research laboratory and the technical control established over materials purchased and produced by the government's huge printing plant has proven of great value throughout these industries.

In this laboratory Mr. Reed has had much to do with all the important investigations conducted on various kinds of paper, including bonds, ledgers, news print, kraft and book papers, for the purposes of developing standard specifications for paper for government use, in harmony with good commercial practice.

Many essential changes have been made in the government paper specifications, due to these investigations which have proven of considerable interest and value to the paper industry, also. Valuable research was also carried out by Mr. Reed on processes and materials used in the printing industry including type metal alloys, bindery glues and adhesives, bookbinding cloths and leathers, ruling inks, the manufacture of printing inks and press rollers and other materials.

Under the direction of Mr. Reed, who has served for some years practically as chief assistant to the Public Printer, standard specifications for quality have been developed for many materials used by the printing industry of great value, not only to the government but to the printing, book-binding and allied industries.

Mr. Reed is the author of numerous articles on methods of paper testing, investigations of paper qualities, effects of relative humidity on paper, importance of standard testing conditions for testing paper, type metal alloys, adhesives and glues for the printing industry and the value of research and technical control in the printing and book-binding industries.

He has been, for the past seven years a member of the Paper Specifications Committee of the Joint Committee on Printing of Congress and a member of the Federal Specifications Board and sub-committees; Paper Technical Committee, Committee on Inks and Typewriter Ribbons, Technical Committee on Color, Shipping Containers Committee, Committee on Specifications for Lubricants and Liquid Fuels. Also the Committee on Paper Testing of the Technical Association of the Pulp and Paper Industry.

He is a member of the Printing Industries Division, American Society of Mechanical Engineers, Sub-Committees on Paper and Pulp Research and Survey.

New Catalog of Hooker Products Issued

The Hooker Electrochemical Company, of 25 Pine street, New York, has just published a beautifully printed and illustrated catalog, which is really a timely and useful manual of information.

Besides a comprehensive history of the Hooker organization, the booklet contains chapters devoted to its industrial relations program; a brief history of the chlorine and electrolytic caustic soda industry; technical service, transportation and traffic service; caustic soda; chlorine; bleaching powder; muriatic acid; monochlorbenzene; paradichlorbenzine; benzoate of soda, and other high grade chemicals manufactured by the Hooker Electrochemical Company.

The Hooker Electrochemical Company is today one of the largest producers of electrolytic caustic soda, chlorine, and chlorine products, in the world. The first and largest plant, the research laboratories, and the engineering headquarters, are at Niagara Falls, N. Y. The Pacific Coast plant is located at Tacoma, Wash., on the deep water of the Puget Sound, where the largest ocean freighters can deliver raw materials and take away finished products. Its own railroad sidings, connecting with all continental and western roads, provide most efficient railroad service.

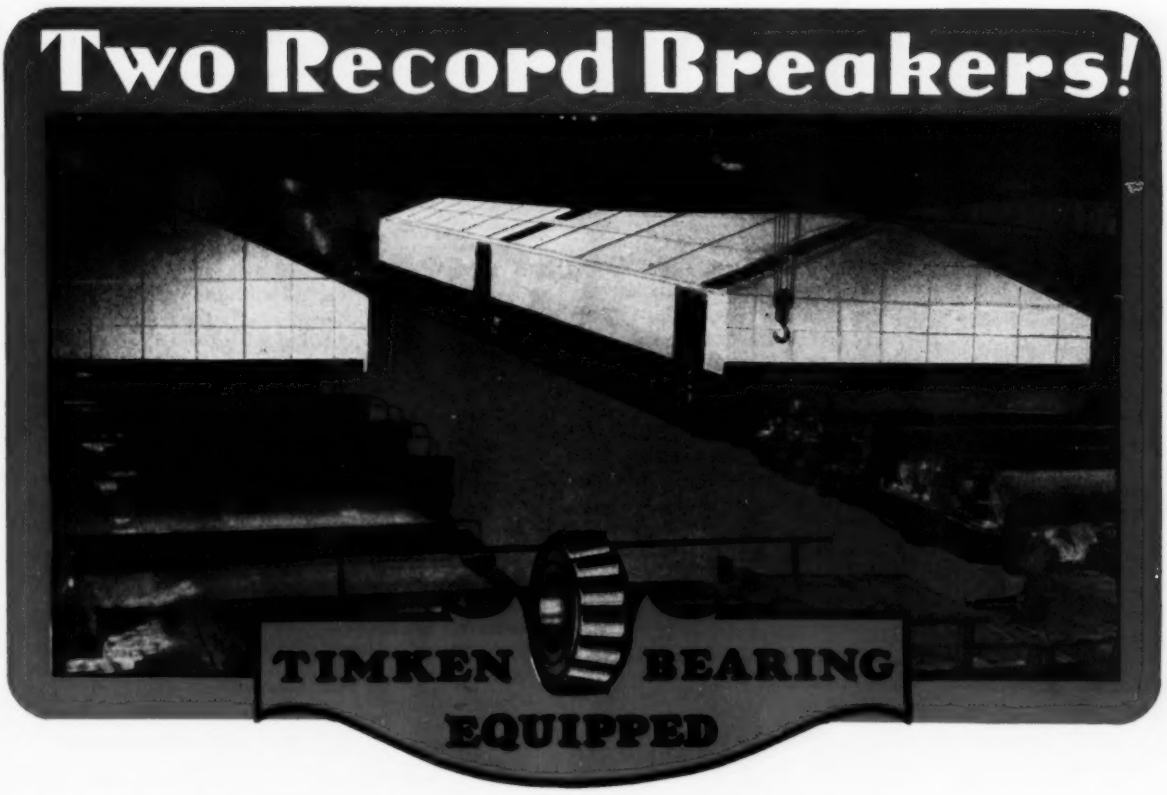
Sawmill Waste Utilization

During recent years there has been a strong trend toward a more complete utilization of sawmill waste for the manufacturing of pulp and fiber products. The National Committee on Wood Utilization of the Department of Commerce is interested in this movement and has just completed a survey of wood waste in North Carolina which shows that 33,000 carloads of such wood waste are available annually at sawmills and woodworking plants in that State. The report of this survey gives detailed particulars regarding this waste, species of wood and quantity available, etc., at each particular plant.

A similar survey has already been completed in Virginia. The results of both of these surveys are available in report form and many be purchased from the Superintendent of Documents, Government Printing Office, Washington, D. C., or from any of the District offices of the Department of Commerce located in the principal cities. The North Carolina survey bulletin and the Virginia survey bulletin each sell for 20 cents a copy.

The National Committee on Wood Utilization is now conducting a survey in Maryland and plans are under way for an extension of this work to other states. The American Paper and Pulp Association is cooperating with the committee in this project.

Two Record Breakers!



A Century Old In Experience . . . Ahead Of Today In Technique!

Two record breaking machines add new laurels to the full century of paper machine development by Bagley & Sewall. Both at the Great Lakes Paper Company mill at Fort William. One, the 304" Fourdrinier, the largest ever built . . . the other, the 264" machine that has already smashed newsprint production records. Fully Timken bearing equipped — 1072 Timkens on each machine — an evidence of Bagley & Sewall thoroughness and modernism. Results? — 15% to 20% saving in over all power; thirteen-ton dryer rolls that can be spun by hand pressure; minimum lubrication; low power breakout; speedy acceleration; and running action so free that the machine "coasts" eleven minutes after shut down.

The Bagley & Sewall Co.

Watertown, N.Y.

New York Trade Jottings

Robison Black, secretary of the Canadian Forestry Association, and his family, are visiting New York this week.

* * *

Richard Thomas, of the Imperial Chemical Industries, Ltd., was a recent visitor at the TAPPI offices, 18 East 41st street, New York.

* * *

Mitchell Paper Stock Company, of 342 West 13th street, New York, are applicants for membership in the National Association of Waste Material Dealers, Inc., Times Building, New York.

* * *

Erland Stahlnacke, of Stockholm, Sweden, visited the Technical Association headquarters in New York last week and is planning to spend a year in the United States and Canada studying the pulp and paper industry.

* * *

Matters of interest to the organization were discussed at the regular weekly luncheon and meeting of the New York Division of the Salesmen's Association of the Paper Industry, held at the Canadian Club last Monday.

* * *

Luncheon will be served to members and their guests of the National Association of Waste Material Dealers at 1 p. m., Tuesday, October 22, at the Hotel Astor, New York, where the various meetings of the association will be in session.

* * *

The regular Fall Meeting of the board of directors of the National Association of Waste Material Dealers will be held at the Hotel Astor, New York, on Tuesday, October 22, at 3 p. m., directly following the adjournment of the general meeting.

* * *

During the Fall meetings of the National Association of Waste Material Dealers at the Hotel Astor, New York, on Tuesday next, October 22, there will be a joint meeting of the waste paper, cotton and woolen rag, and foreign trade divisions at 11 a. m., which will bring together those interested in these respective sections.

W. E. Shuttleworth & Co. Out of Bags

On October 1, W. E. SHUTTLEWORTH & Co. of Franklin street, West Broadway and Varick street, New York after seventy years of continuous service, for the first time in their history, were temporarily out of the grocery bag business, when on this date, they ceased to represent the Howland Bag and Paper Company.

The firm has never moved further than ten blocks from where it was incorporated in 1859, manufacturing paper bags by hand and representing straw paper mills, in New York City.

Chas. H. Shuttleworth, vice-president of the company, recently sold his interest in the Shuttleworth Carton Company, paper box manufacturers, and departed from New York on September 27, for a long desired vacation, which was interrupted when his boat, the "Empress of Canada" was shipwrecked on the rocks off Victoria, B. C., October 13. All of the passengers were taken off safely and Mr. Shuttleworth is proceeding on his way to Vancouver, taking another steamer from there to Alaska.

Walter E. Shuttleworth, the president of the company, has recently returned from a trip to Cleveland, where he is the joint owner with Wm. E. Moser, of the Moser Bag and Paper Company Cedar avenue and Ashland road, Cleveland, manufacturers of paper bag specialties. On August 24, he celebrated his 43rd year of continuous service in the paper bag industry and his 33rd year as president of the W. E. Shuttleworth & Co. Mr. Shuttleworth is to be married on October the 19th and leave immediately for an extended automobile trip, motoring to the Middle West and flying from Kansas City to the Coast and expects to arrive home the latter part of November.

Demand More Active in Indianapolis

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., October 14, 1929.—Business during the last week showed a little increase in the paper trade in this territory. Business is still much spotted, but there are indications of a stronger tendency and prices appear to be fairly firm. A disposition is seen among some jobbers to cut prices, but they are in the minority and are rather particular on what grades they make reductions.

Some contract orders are being booked, but they are very scattering and most of the business is for immediate delivery. Users seem confident the price levels will not go up materially and are content to permit the jobbers to carry the load.

Virtually every line of box making stock shows some improvement. The manufacturers in this state say the holiday business is apparent and they are stocking up with raw materials against the increasing orders. It is freely predicted that this branch of the industry will be more active this fall and winter season than it was last year.

Demand for fine papers is somewhat spotted. Printers report quite a bit of work in prospect for direct mail advertising campaigns during November and December, but as yet the business has not materialized. Kraft is moving in fair volume among the coarse grades, all of which show slight improvement over a fortnight ago.

News print is about the same as it has been for the past two months. There is perhaps a little more volume being sold, but in the rural communities there is not the snap to buying that was expected at this time.

Rapid Progress Towards Stabilization

One does not have to go far afield to find unmistakable evidence of the progress which the kraft paper industry is making towards profitable stabilization. Much of this success can very properly be attributed to the practical cooperation engenderd by the activities of the National Kraft Paper Manufacturers Association, under the competent managership of Major O. M. Porter, former secretary of the American Paper and Pulp Association.

The kraft paper manufacturers throughout the United States are apparently realizing that production is profitable only where it can be sold advantageously, on the sound basis of continuing public demand, and are bringing their production schedules in line with present and prospective demand, while maintaining stable market conditions. This conformance with the fundamental law of supply and demand is most welcome in the paper industry and should make it possible for the great kraft paper industry of the United States to take full advantage of the opportunities for further constructive work through the cooperative activities of its National Association.

A Correction

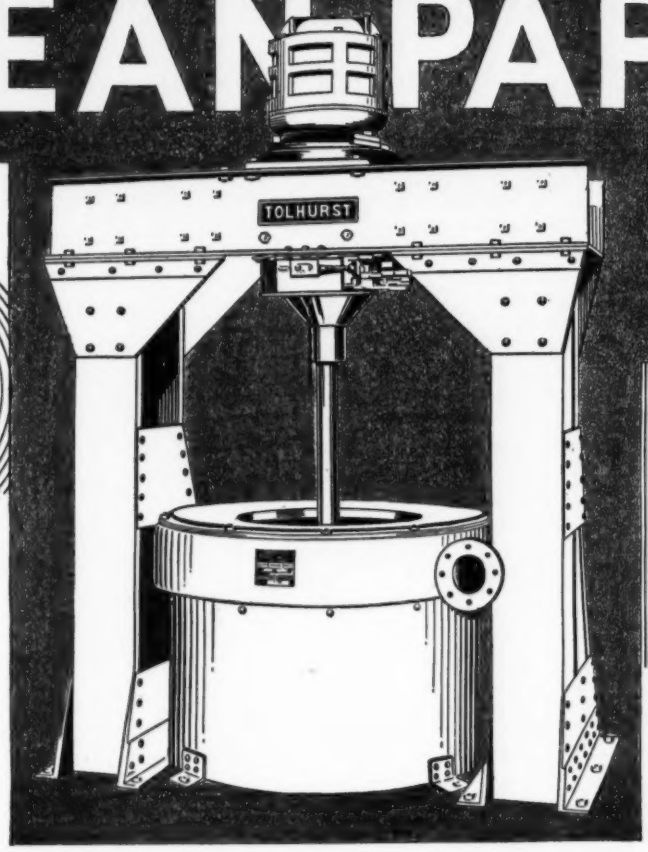
It was stated in the issue of the Paper Trade Journal of October 3 that "the Unity Paper Mills, Potsdam, N. Y., were visited by fire during the week when one of the boilers blew its fuse starting a blaze, etc . . ." The company writes regarding this item that there was no fire whatever at its mill. A tube blew out of the boiler and some sparks blew on the roof which were immediately put out by its own help. The occurrence was not even reported to the insurance company.

Reparation Awarded To Pittston Paper Co.

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 14, 1929.—Rates on wood pulp, in carloads, from New York Harbor, N. Y. to Forest Castle, Pa., have been found unreasonable by the Interstate Commerce Commission in a decision rendered in the case of the Pittston Paper Company against the Lehigh Valley Railroad Company. A reasonable rate has been prescribed and reparation awarded.

CLEAN PAPER



DESIGNED AND BUILT BY SPECIALISTS

A NEW day in papermaking is here. The Tolhurst Centrifugal brings to the industry a unit which makes possible a peak of quality hitherto unobtainable.

What does it do?

It does the work of slow, inefficient, slime-collecting rifflers and sand-traps. It multiplies the force used in this equipment by hundreds and thus removes every speck of impurity, large or microscopic. It enables the mill to produce perfectly clean paper and, regardless of furnish, the Tolhurst so prepares the fibres that definite improvement in formation and closing of the sheet results.

Tolhurst, in this machine, brings to the paper industry, the same specialized knowledge of centrifugal engineering that has made the name Tolhurst a synonym for excellence in the Chemical, Textile and other industries.

Write for the Tolhurst Bulletin which contains full particulars and describes the economies, advantages and profit possibilities of this revolutionary unit.

TOLHURST MACHINE WORKS, INC.
TROY, N. Y.

New York Office:
30 Church St.

Chicago Office:
8 S. Dearborn St.

This machine is made under license of the Centrifugal Engineering and Patents Corporation, holders of the Erkensator patents.

Power Plant Section

Reducing Power Costs Through Unit Treatment

Conducted by REGINALD TRAUTSCHOLD, Consulting Engineer

Modernizing the Mill

Anti-Friction Bearing Applications

One of the first steps ordinarily taken in approaching the modernization of the mill is the application of anti-friction bearings wherever it is felt that such refinement will effect substantial savings in power consumption. Invariably, marked betterments result, the investment entailed being liquidated in a few months and production costs, subsequently, correspondingly reduced. The strange part is that in spite of the now well known economies effected in power consumption and in bearing maintenance by virtue of the use of modern anti-friction bearings the adoption of such bearings has not been extended to every journal in the mill. The explanation probably lies in the fact that the average mill is very apt to focus its attention upon its paper machines, Jordans, grinders and other main equipment, overlooking the fact that the numerous hangers carrying shafting and every other piece of equipment embracing some rotating part present similar opportunities for profitable anti-friction bearing applications.

Ball and roller bearings have been more or less familiar to the paper mills for a good many years. In fact, there are instances of applications of such bearings to paper mill machinery dating back fifteen or twenty years which have effected such economies as to pay a return of as much as eighty times the actual cost of the bearings. Of course, there are other cases which have not proved so fruitful, in which the question of development in bearing refinements has been entailed. For example, about fifteen years ago, the application of anti-friction bearings to pulp grinders was attended with only partial success. While results over a two year period, even then, indicated a quite justifiable saving in power, the bearings did not prove entirely satisfactory in excluding water. Also, the bearings then were comparatively costly.

Today, the anti-friction bearing grinders in operation show an average reduction in power demand per ton of pulp produced of 8.6 per cent, or an increased production per horsepower unit of 9.4 per cent. By effective enclosures, water and pulp are completely excluded from the bearing housing. From a power balance viewpoint, it has been found that the starting of anti-friction grinders results in a marked reduction in line variation. Furthermore, the better bearing of today costs only about half as much as the less satisfactory product of ten or twelve years ago. As a result, every paper machine built during the past twelve months has been equipped with anti-friction bearings, not only in what may be termed customary locations, but in locations which would have been considered as presenting impossible conditions only a few years back.

Anti-Friction Paper and Board Machines

About a year ago, the Great Lakes Paper Company, Ltd., Fort William, Ontario, installed two large paper machines, one a 304-inch and the other a 264-inch unit, equipped with a highly efficient variety of distinctive roller bearings at every point except the calender stack. Both machines are designed for a paper making speed of 1,500 feet per minute. The smaller machine shortly after being put in operation, incidentally, shattered production records by turning out 151 tons of news print in a single 24-hour day.

Comparing the power consumption characteristics of this 264-inch machine with a like paper maker equipped with plain bearings, the breakout demand for the plain bearing machine is about 328 kilowatts, while that of the anti-friction bearing machine is approximately 80 kilowatts, a ratio of 4 to 1 in favor of the machine with roller bearings. The accelerating power demand also favors the machine with anti-friction bearings, 306.5 kilowatts at 219 volts for the plain bearing machine against 234 kilowatts at 200 volts for the other. Correcting for the difference in voltages, this places the superiority of the machine with anti-friction bearings at about 20 per cent.

In the case of the 304-inch machine, also equipped with anti-friction bearings throughout, the first time the drier section was started, immediately after assembly and before the clothes were put on, only 45 kilowatts were required to start the rolls from rest. This, needless to say, is a very decided contrast to the power conditions that usually hold when a new machine is first started. As compared with a machine equipped with plain bearings, the computed integrated saving appears to be a matter of 15 or 20 per cent in favor of the machine with roller bearings.

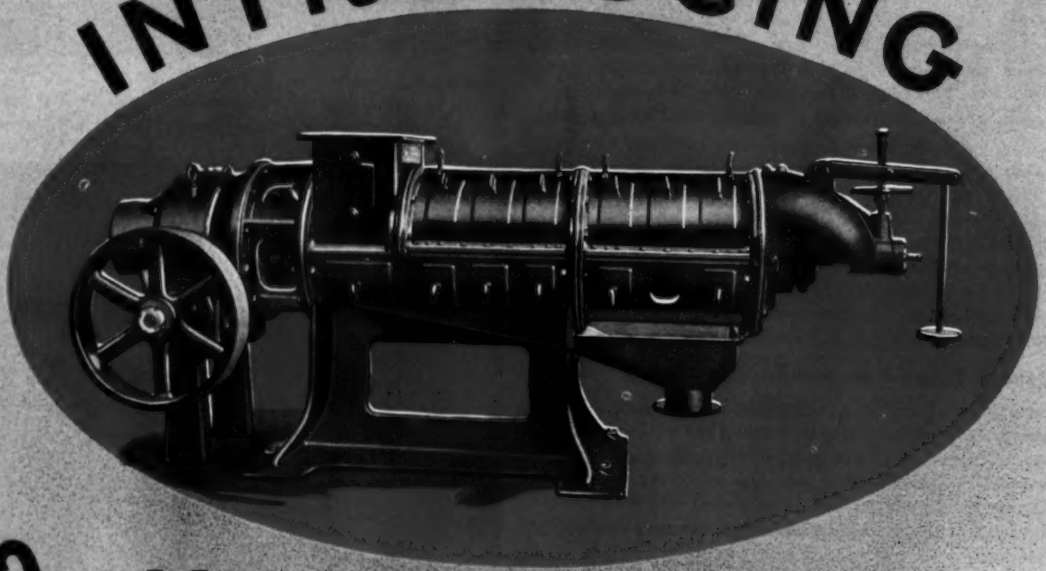
Aside from the saving in power, the anti-friction bearings give much smoother operation, permitting extremely close relative speeds to be maintained between sections and cutting down the possibility of breaks in the sheet. As a matter of fact, it was found on the 264-inch machine that the paper actually helped to drive the rolls, reducing the load on the driving motor by a considerable amount. This was clearly demonstrated by a sudden rise in the motor demand when the paper broke between the last section and the calender.

In a large eastern mill specializing in boards, a test application of anti-friction bearings to a single cylinder mould was made in 1923. This demonstrated an increase in cylinder wire life representing a net annual saving of $94.82, with the natural result that the other nine cylinders were promptly equipped with similar bearings. The actual net cost of the changeover per cylinder amounted to little more than the demonstrated annual saving, so considering interest on investment, depreciation and maintenance there is actually a yearly return on the capital entailed for the change of approximately 84 per cent.

An even more striking illustration of what can be accomplished through sound application of anti-friction bearings is indicated in connection with modernizing a 5-cylinder board machine. The actual savings in felts and wires of the ball bearing machine operating under virtually identical conditions, amount to $1,708.50 a year. In this particular case, the cost of the changeover per bearing was approximately $165, or, in other words, a return of better than 100 per cent is realized on the investment.

An instance of a profitable application of anti-friction bearings to a Fourdrinier occurred recently at a large and prominent north-

INTRODUCING



The Valley Voith Screw Press

An efficient machine for removing water, acid and other liquids from pulp. A machine possessing many new operating advantages—a machine eliminating the disadvantages of wet machines, deckers, and filters—a machine offering the savings of:

1. LOW INITIAL COST.
2. LOW UPKEEP — ELIMINATING ENTIRELY THE USE OF FELTS, WIRE, AND AUXILIARY EQUIPMENT.
3. SMALL AMOUNT OF POWER.
4. SMALL LABOR REQUIREMENTS.

11 SUCCESSFUL INSTALLATIONS ARE ALREADY IN OPERATION.

Detailed information supplied on request by writing the Valley Iron Works Company, Appleton, Wisconsin.

VALLEY

Equipment for Paper and Pulp Mills

New York Office: 350 Madison Ave.
Western Mfg. & Sales Div.: Smith & Valley Iron Works Co., Portland, Ore.

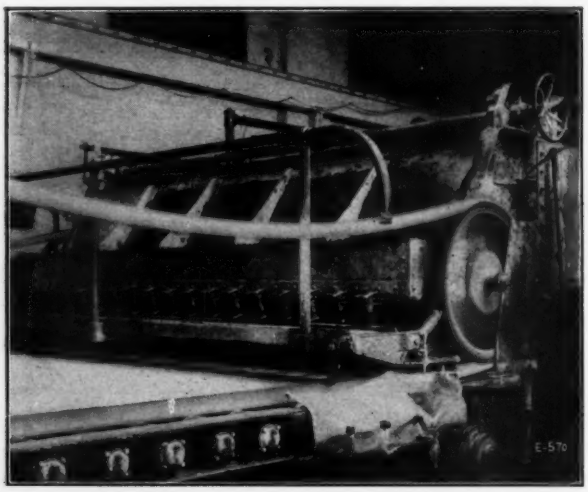
ern mill, where difficulty had been experienced in wrinkling of the wire due to binding between the carrying and breast rolls. A complete changeover to anti-friction bearings on the wet end corrected the trouble and effected an actual saving of $1,996.80 per year, a highly satisfactory return on the capital outlay. In another similar installation and, incidentally, one in which two similar machines, one equipped with ball bearings and the other with plain bearings, furnished an opportunity of making direct comparisons, the wire life of the anti-friction bearing machine was 65 per cent the longer, effecting a direct saving of actually $2,137.85 per year.

The use of anti-friction bearings on the back drives of new machines is now practically standard, the tangible savings realized being of such recognized high order. It is found that 20 to 25 per cent of power input is required for the drive on the average. Lubrication and maintenance costs are reduced from 80 to 90 per cent and quite generally a 20 to 25 per cent saving in power consumption is realized, making the use of anti-friction bearings of unquestionable advantage. Furthermore, the reliability of modern ball and roller bearings is a virtual assurance against drive failures.

Jordans Mounted on Anti-Friction Bearings

The possibilities of realizing substantial savings are of like order in equipping Jordan engines with anti-friction bearings. In one instance on record, that sum total of the various savings effected amounted to $948.58 a year, as compared to the expense of so equipping the Jordans of $800.00. The annual return on investment in this case, after deducting all fixed and carrying charges, is about 95 per cent.

The accuracy of the modern anti-friction bearing insures a better finished product, beyond doubt, more stock per unit power input, on account of the close limits to which the plug may be set and maintained, and the costly dropping of the plug is eliminated. These characteristic benefits of anti-friction bearing Jordans have been repeatedly demonstrated under exacting working conditions. Nevertheless, a detailed comparison of the operating costs of an anti-friction Jordan with those of a babbitt bearing Jordan of almost identical construction and capacity and operating under identical working conditions, recently conducted for the benefit of a skeptical paper mill, should be of interest.



Courtesy: Norma-Hoffman Bearings Corp.

FIG. 1.

Wet end of high-speed fourdrinier at the St. Lawrence Paper Mills Co., Inc., with the breast roll mounted on self-aligning roller bearings.

The actual cost of the various factors entailed in making up the comparative statement in dollars and cents over a period of a year were as follows:

	Anti-Friction Jordan	Babbitt Bearing Jordan
Oil used	$ 0.75	$ 31.32
Oiling labor	2.60	43.50
Filling	155.56	233.33
Chipping	17.77	26.67
Re-babbitting bearings	.....	13.00
Cooling bearings	.....	23.44
Fixed charges	125.86	.....
Power at 1 cent per kw. hour	3,654.00	4,408.00
Totals	$3,956.54	$4,779.26

The Hermann Mfg. Co.

It will be noted that the comparison is made on the bearing construction alone, the only fixed charges taken into account being those which pertain to the somewhat higher first cost of the anti-friction Jordan bearings. The net yearly cost favors the refined bearing construction by 17.2 per cent. The chief factor in this economy is, of course, the power saving effected by the more efficient bearing construction, a saving in power consumption alone of 17.1 per cent being apparent. The other expenses are 18.5 per cent lower in the case of the anti-friction bearing Jordan.

Courtesy: Norma-Hoffman Bearings Corp.

FIG. 2.

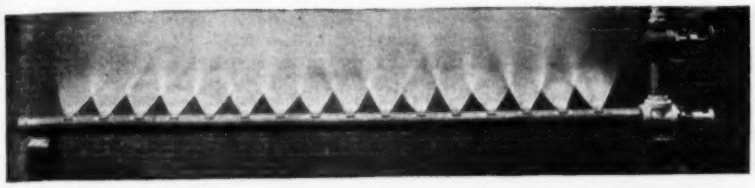
Primary press rolls mounted on roller bearings at the Philadelphia plant of the Container Corp. of America. Two bearings support each end of the lower press rolls and have functioned effectively without any trouble for a number of years.

Modernizing Line Shaft Installations

In connection with modernizing a line shaft installation by the substitution of modern double ball bearing hangers for the customary babbitted bearing boxes, some interesting findings resulted from a test made a little over a year ago at the Robertson Paper Box Company, Inc., Montville, Conn. The object of this investigation was to determine to the satisfaction of the mill management the actual savings in power, oil and labor expenses resulting from a change to the more efficient line shaft arrangement.

The equipment under test consisted of a line shaft supported by three 3-7/16 and three 2-7/16 inch hangers, actuated by a 50-horsepower slip ring induction motor and driving five suction pumps, two vacuum pumps, one water pump, three screens, two whipper shafts and two agitators, while the results secured with the respective bearing constructions under full load were, with babbitted bearings, a power demand of 44 kilowatts as opposed to a power demand of 39 kilowatts with the ball bearing hangers. The saving effected by the anti-friction bearing construction, 5 kilowatts, represents a net saving in power consumption of 11.5 per cent. Based upon a running time of 144 hours per week for fifty weeks and a power charge of 1.8 cents per kilowatt-hour, such betterment effects a yearly saving in power expense amounting to $648.00.

The six babbitted bearings required oiling generally twice a day, entailing a lubricant expense of $27.00 a year, while two



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greasings a year amply sufficed for the ball bearing hangers, entailing a yearly lubricant expense of 30 cents. The saving in lubricating labor expense favored the ball bearing construction even more, being $48.00 in the case of the plain bearings and only 24 cents for the anti-friction bearing hangers annually.

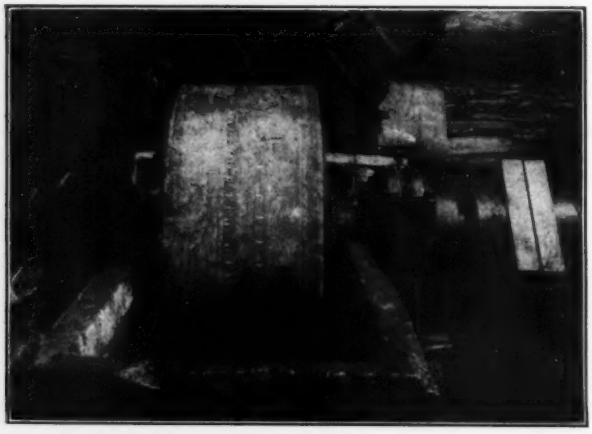
A summation of the individual savings favoring the anti-friction bearing hangers totals to $722.46 a year, while the cost of the three 3-7/16 and three 2-7/16 inch ball bearing boxes was a matter of $487.04. In other words, the savings effected by the more efficient ball bearing construction of hangers, not only liquidated the investment entailed without making any allowance for the salvage value of the discarded plain bearing hangers in eight months, but yields an annual return of 148 per cent on the investment.

Even outside of the annual saving of $722.46, the installation was amply justified on three other counts. The ball bearing hangers are much the cleaner, no dripping of lubricant occurring. The starting torque of the loaded line shaft is very much less with the ball bearing supports and much more uniform speeds are secured for line shaft and driven equipment.

At another mill contemplating the installation of a considerable number of line shaft hangers, the precaution was taken of erecting lines of temporary shafting and testing out various types of hangers before purchasing. Only one size of bearing was required and the respective advantages of employing three varieties of boxes were determined. The procedure was simple and most effective.

Three lines of 2-7/16 inch shafting, each 110 feet long, were installed, one fitted with standard ring oiled bearings and each of the other two with a certain type of roller bearing. Each complete line was carefully aligned and turned over for several hours before conducting the tests at 370 r.p.m. The same motor, pulley and belt constituted the drive unit for each line, the drive assemblage being moved from shaft to shaft and accurately lined up. Extended tests were then conducted to determine the exact friction load imposed by each variety of hanger.

It was found that the line carried by one variety of roller bear-



Courtesy: SKF Industries, Inc.

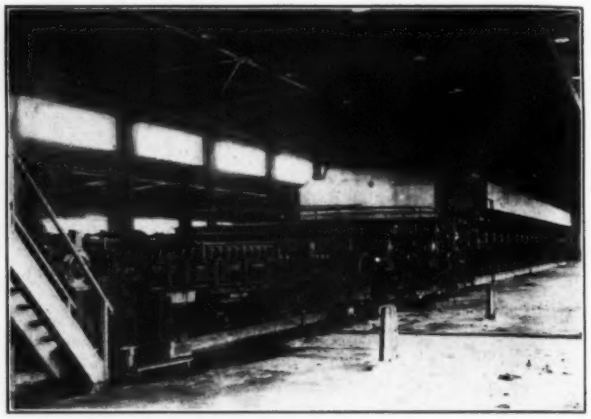
FIG. 3.

Pulp grinder equipped with spherical bearings results in better products with reduced friction and decreased maintenance.

ings showed a friction load of 0.94 horsepower; the line supported by the other variety of anti-friction bearing, 1.54 horsepower; while the line equipped with ring oiled bearings developed a friction load of 3.15 horsepower, the conditions in each case being as identical as it was possible to maintain. Such results, obviously, left nothing to the imagination and needless to say that the more efficient of the two varieties of roller bearings was the type determined upon.

This simple and, to the mill, very conclusive test showed that the installation of the bearings selected effected a saving of 70 per cent in power consumption, as compared with that which would have been entailed had the somewhat cheaper ring oiled variety of hanger been installed. The other type of roller bearing, an efficient mechanism of well recognized standing, would have effected a saving of only 47.5 per cent under the existing conditions, a goodly amount, it is true, but not sufficient in this particular case to land the order.

However, its behavior under the particular requirements of the



Courtesy: SKF Industries, Inc.

FIG. 4.

Modern 246-inch Fourdrinier machine equipped throughout with anti-friction bearings. The use of anti-friction bearings allows for increased speed of machine.

test showed that it was for the specific service considerably superior to the ring oiled hanger.

That the test was entirely fair and did supply dependable information was indicated some three weeks after the installation of the hangers on the working lines of the mill, when under actual working conditions it was found that the friction load for a complete line had dropped from 0.94 to 0.88 horsepower, the saving effected risen from 70 to 71.5 per cent. This was interpreted as an indication that the anti-friction bearing construction improved from an efficiency point with service.

Motors Equipped With Anti-Friction Bearings

As a further indication that the application of suitable anti-friction bearings to virtually all equipment embracing rotating parts pays, a brief consideration of the value of anti-friction bearings for electric motors would seem particularly pertinent. In such application, of course, the worth of the bearing refinement is not so much its effectiveness in combating friction losses and improving the mechanical efficiency of what is probably the most inherently efficient of power units, as it is in the reduction of maintenance and depreciation expenses.

In this connection, it is well to record the activity of one of the leading manufacturers of anti-friction bearings in investigating the question, a firm which has pioneered in meeting the bearing needs of the paper making industry.

This concern sent out a questionnaire to more than a hundred of the largest users of electric motors to ascertain the most prevalent causes of motor failures, with the results as tabulated in the accompanying table.

From these statistics, it is quite apparent that the larger majority of electric motor failures can be directly attributed to some bearing weakness, either through breakdown due to mechanical failure or to oil leakage. In the case of direct current motors, such failures amount to 62 per cent of the total and in alternating current motors to 53 per cent.

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RELATIVE CAUSES OF ELECTRIC MOTOR FAILURES

Cause	Direct Current Motors	Alternating Current Motors
Mechanical failure	21 per cent	16 per cent
Oil leakage	41 per cent	37 per cent
Outside influence	17 per cent	34 per cent
Moisture	15 per cent	5 per cent
Over-heating	6 per cent	8 per cent
	100 per cent	100 per cent

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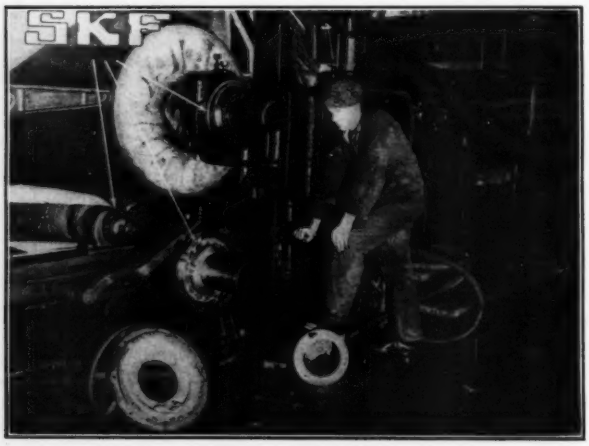
The very design of modern anti-friction bearing housings virtually precludes the possibility of lubricant leakage with consequent damage to the motor windings. Comparatively little lubricant is required, and only at infrequent intervals, so that the modern anti-friction bearing construction actually eliminates one of the most serious factors instrumental in electric motor collapse. By the application of approved anti-friction bearings, in other words, 41 per cent, in the case of direct current units, and 37 per cent, in the case of alternating current units, of the more prevalent causes can be eliminated from motor failure.

In respect to breakdowns due to mechanical failure, such collapses are almost invariably due to the wearing down of the plain bearings or to wear of the rotor shaft. In either case, the replacement of the bearings or shaft is entailed, a relatively costly undertaking, particularly as it necessitates the cutting out of the power unit while such repairs are made. In modern anti-friction design, the inner race is mounted securely on the rotor shaft, eliminating the possibility of shaft wear, while the rolling elements, whether ball or roller, show practically no wear even after long periods of heavy service. Consequently, if the anti-friction bearings applied to an electric motor are properly selected and correctly mounted virtually the only possibilities of mechanical failures are the breakage of the end frames of the motors or the rupture of the rotor shaft outside of the bearing, and these are exceedingly rare.

Placing any definite value upon these characteristics of anti-friction bearing motors in curtailing motor failures is, of course, out of the question, but unquestionably they, the characteristics,



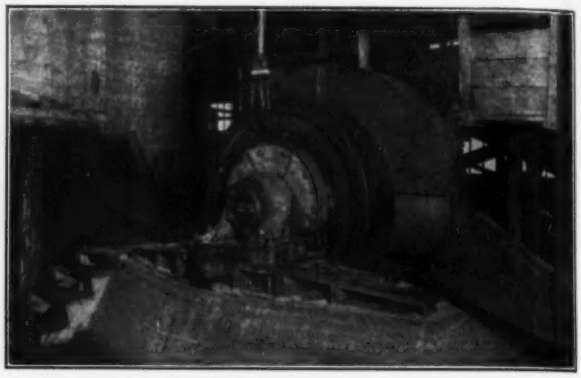
Courtesy: SKF Industries, Inc.

FIG. 5.

The installation of anti-friction bearings to top and bottom couch rolls and press felt rolls has resulted in longer life of felts and wires, reduced starting effort, decreased maintenance and elimination of oil leakage.

are highly desirable and are held important by progressive mills in the paper making industry. The chief electrician of one of the larger mills, for instance, has during the past six or seven years changed over about seventy babbitted sleeve motors, varying in size from 5 to 100 horsepower units, replacing the sleeve bearings with ball bearings. The cost of consummating such improvements is reported to have been quite moderate, i.e., somewhat below the average cost for such changeovers, varying from about $50.00 for a 10-horsepower motor to $150.00 for a 100-horsepower unit. True, even these rates may customarily appear excessive premiums for a precautionary measure against what may be in many instances rare mishaps, thanks to the high standards set by manufacturers of electric motors and the high quality of their products, but under certain conditions they are doubtless attractive.

The installation of motors equipped with anti-friction bearings, rather than with the more general type of plain sleeve bearings, in the first place is a somewhat different proposition, however, as for an additional 5 per cent or so in motor cost the liability of



Courtesy: SKF Industries, Inc.

FIG. 6.

96-inch wood chipper with motor built directly on 8½-inch main shaft mounted on anti-friction bearings; operating five years with 30 to 50 per cent power saving.

motor trouble can be reduced by 50 per cent or more. Furthermore, there is a reduction in maintenance cost and in the expense for lubricants amounting to from 40 to 80 per cent through the use of anti-friction bearings on motors. It would appear, for such reasons, that anti-friction bearing motors should prove highly desirable in the paper mill field, where any interruption to any essential power unit (and every power unit is essential, large or small, in pulp and paper mills) is distinctly costly.

N. D. Paine, general electrical superintendent, Price Brothers and Company, Ltd., Quebec, expressed himself to the effect that the greatest benefit of the anti-friction bearing motor lies in keeping the lubricant from leaking onto the motor windings with the resultant deterioration of insulation. It is also his opinion that the proper grease lubrication of anti-friction bearings is much more reliable than the oil lubrication of plain bearings and, therefore, much less liable to cause trouble. There are no rings to jump off the motor shaft and even if a grease cup should happen to break it is far less serious than when an oil cup collapses, for the lubricant will not leak out as when oil is used.

It is also interesting to note that the Association of Iron and Steel Engineers, members of which organization probably have under their supervision more electric motors than are employed in any other industry, has carefully investigated the advisability of employing anti-friction bearings in electric motors and recommends their extensive use. In fact, through its efforts and the cooperation of motor manufacturers, the standardization of electric motors in the steel industry is rapidly being effected and today the anti-friction bearing motor in the steel mill is decidedly more in demand than the sleeve bearing type of such power unit. In the particularly severe services encountered in such establishments, the economies realized by anti-friction bearing motor equipment are so pronounced that the additional cost of the motors is repaid several times a year.

The anti-friction bearing motor not only reduces the liability of motor failure by half and slashes even more maintenance costs and lubrication expenses, but is virtually free from failures due to neglect, mishandling or carelessness. In fact, the 5 per cent or so additional investment entailed for their purchase will often

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Method of procedure for adoption of official paper testing methods by the Technical Association of the Pulp and Paper Industry. The work on standardization of paper testing methods is divided as follows: Microscopical, Physical, Chemical, Optical, Tests for Special Uses of Paper.

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yield a higher return than any other outlay contracted in modernizing the mill equipment.

The aim in presenting this somewhat sketchy discussion on anti-friction bearing applications to pulp and paper mill machinery and equipment, large and small, as well as in presenting the previous discussions which have appeared in these columns dealing with anti-friction bearing operation,[1] has been to feature their distinctive importance in modernizing the plant, in conserving power and reducing operating costs, and particularly to draw attention to the fact that a proper installation of anti-friction bearings invariably pays.

This is true whether the application is in connection with the paper machine, grinders, beaters, Jordans and other main equipment; line shafting, etc.; the highly efficient electric motor or with almost any rotating mechanism or part in the mill. Frequently, it is the simple and what should be the obvious application which is overlooked and is the one which would yield the highest return on investment. Considerable progress has been made in combatting costly, wasteful and no longer justified journal friction in the mills, it is quite true, particularly in recent years and possibly more by virtue of efforts on the part of builders of equipment for the use of pulp and paper mills and other manufacturers of industrial equipment than through any activity on the part of the mills, but there is still not a mill in service which has come anywhere near exhausting the possibilities of profitably modernizing its equipment through well warranted applications of anti-friction bearings.

Bids and Awards for Government Paper

WASHINGTON, D. C., October 16, 1929.—The Government Printing Office has received the following bids for 36,000 pounds of white sulphite writing paper in 17-inch rolls; Barton, Duer & Koch Paper Company, at 5.95 cents per pound; American Writing Paper Company, 7.25 cents; Whitaker Paper Company, 5.8 cents; Old Dominion Paper Company, 5.94 cents; Cauthorne Paper Company, 6.3 cents; Dobler & Mudge, 6.25 cents; Atlantic Paper Company, 6.2 cents; Import Paper Company, 7.15 cents; Walker Goulard Plehn Company, 6.25 cents; and Aetna Paper Co., 7.02 cents.

The Printing Office has also received the following bids for 5,000 pounds of 24 x 38 No. 32, 78 lbs., pink sulphite bond paper; Aetna Paper Company, at 7.99 cents; R. P. Andrews Paper Company, 8.89 cents; Old Dominion Paper Company, 9.4 cents; Walker Goulard Plehn Company, 7.75 cents; Atlantic Paper Company, 7.85 cents; Import Paper Company, 8 cents and Cauthorne Paper Company, 7.65 cents.

The Government Printing Office has announced the following paper awards.

The Old Dominion Paper Company will furnish 57,400 pounds (400,000 sheets) of 32 x 42 143½, white sulphite bond paper at 6.549 cents per pound, bids for which were received on October 2.

The Worthy Paper Company will furnish 8,000 pounds (64,000 sheets) of blue, gray, and green, 50 per cent rag, 20 x 25 125, laid cover paper at 23.5 cents per pound. The Virginia Paper Company will furnish 2025 sheets of 17 x 22 inch blue gummed paper at $6.98 per ream. Bids for these items were received on September 27.

The Whitaker Paper Company will furnish 120,000 pounds of white sulphite writing paper in 21 inch rolls at 5.8 cents per pound. R. P. Andrews Paper Company will furnish 7,100 pounds (75,000 sheets) of 26 x 34 95½, white, natural tint passport paper at 30 cents per pound. Bids for these items were received on September 25.

T. A. Cantwell & Co. will furnish 7,000 pounds of 30 x 40 inches, 450 lbs., high finish sulphite manila tag board at 7c per pound, bids for which were received on September 18.

The R. A. Andrews Paper Company will furnish 516 pounds of 21 x 24 inches sensitized paper at $262.38, bids for which were received on September 16.

[1] Paper Trade Jour., Aug. 4, 1927; Mar. 8 and Oct. 25, 1928.

News of the Boston Paper Trade

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., October 14, 1929.—It is rumored that responsible box board interests are examining favorable sites for the construction of a two machine mills for the manufacture of chip news and folding box board in Metropolitan Boston. Details are not available at this time.

Harrie E. Waite, sales manager for John Carter & Co., Inc., is ill of pneumonia.

Rutter & McNaught, Inc., have taken the agency for the Corinthian Text, made by the Geo. W. Wheelwright Paper Company, of North Leominster and Wheelwright, Mass. This paper is a watermark and rag content sheet carried in seven colors and made in both Laid and Wove Finishes.

The Carter Rice & Co. Corp. Christmas portfolios are being shown to customers and distributed throughout New England. They contain a number of Christmas designs that are available in electro form at cost to users of the Old Colony Ready-to-Print Mailing Sets to be used as greeting cards.

Chas. E. Esty, managing director of Carter Rice & Co. Corp., who attended the National Paper Trade Convention at Chicago, continued on to the Pacific Coast where he will visit the Carter Rice offices there.

Floyd H. Blackman, secretary of the D. F. Munroe Company; Charles A. Shaw, president, and Matthew O. Byrne, treasurer, of Whitney Bros., Inc., and Frank H. Merrill, president, Andrews Paper Company, were also among those attending the Chicago Convention.

Herbert C. Ham, of Arthur E. Ham & Sons, attended the Direct-by-Mail Convention at Cleveland October 9-11 inclusive.

William N. Stetson, Jr., president and treasurer of Storrs & Bement Co., has gone on a business trip to New York, Philadelphia and Washington.

Gummed Sealing Tape Simplified Practice

A large and representative conference of manufacturers, distributors and users of Gummed Paper Sealing Tape, held under the auspices of the Division of Simplified Practice, Department of Commerce, at the Congress Hotel, Chicago, on October 7, approved a simplified schedule of stock sizes for gummed paper sealing tape, according to an announcement just made by the U. S. Bureau of Standards. The recommendation is to be considered in effect February 1, 1930, subject to the approval of all interests.

The program as approved will result in a substantial reduction in the number of weights and widths of No. 1 Kraft Sealing Tape. The varieties retained will, in the opinion of those concerned, satisfy the normal requirements of the industry.

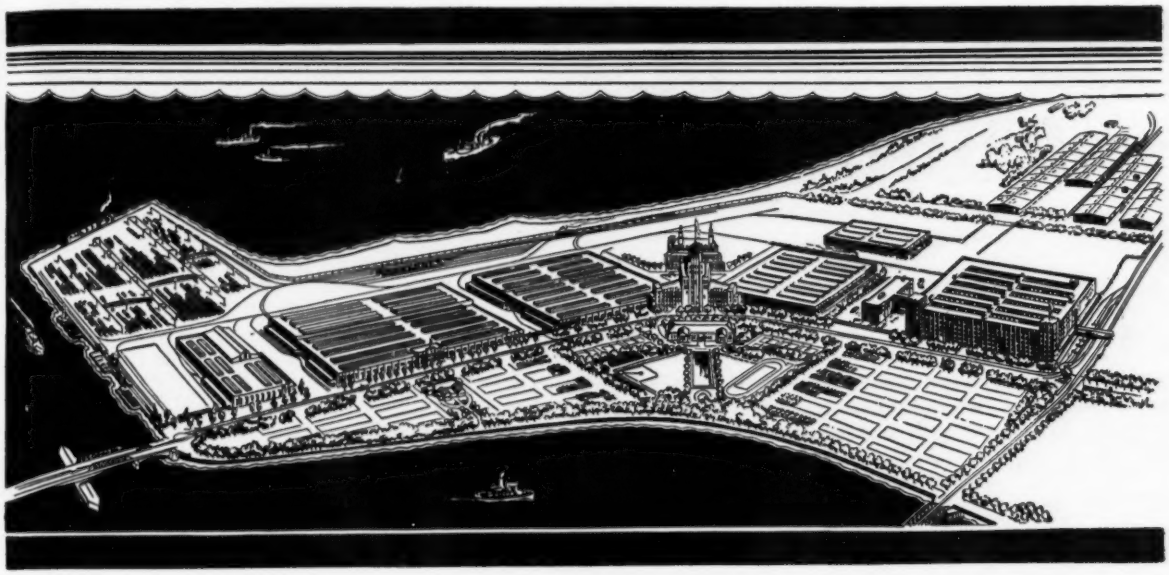
The Division of Simplified Practice will shortly send to the members of the sealing tape industry a copy of the report of the above conference, together with an acceptance blank. When sufficient signed acceptances, representing at least 80 percent of the industry (by volume of annual production) are received, the recommendation will be printed as part of the "Elimination of Waste" series of the Department of Commerce, in accordance with the regular procedure of the Division in its cooperative work with industry.

Bag Men To Hold Trade Practice Conference

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 16, 1929.—The Federal Trade Commission has authorized the holding of a trade practice conference of paper bag manufacturers. Time and place for holding this conference has not yet been determined by the Commission.

The paper bag manufacturers who applied for the conference represent 75 per cent of the grocers' bag industry, and will take up subjects such as inducing breach of contracts; repudiation of contracts, imitation of trade marks, defamation of competitors, and price discrimination.



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Vol. LXXXIX New York, October 17, 1929 No. 16

PAPER SALESMEN'S TRAINING COURSE

The training course for paper men, prepared by the Paper Trade Institute of Chicago, with the help of the leaders in the paper industry, will be available early this month.

The Paper Trade Institute is now a division of LaSalle Extension University of Chicago, the well known business training institution. With its personnel of sales and instruction experts, its splendid equipment and service organization, and twenty years' experience in giving adult business training by mail to 700,000 members, it was felt by the sponsors of the course that LaSalle could better serve subscribers to the course than could any new organization created by Paper Trade Institute.

According to a new catalog, the course is designed to give paper salesmen technical knowledge and practical sales instruction which will enable each man to increase his sales volume on a wider margin of profit and consequently his income.

To the paper merchant and mill executive it will be a reference library and ready source of information.

The course in its final form consists of ten attractively bound and illustrated texts, the titles of which follows: 1. "The Manufacture of Paper." 2. "Wrapping Papers, Boards and Twines." 3. "Printing, Engraving and Paper Selection." 4. "Printing and Writing Papers." 5. "Sizes, Weights, Finishes and Testing." 6. "Complete Trade Customs." 7. "Paper Selling Fundamentals." 8. "Building Sales Through Service." 9. "Paper Uses and Markets." 10. "How to Use Trade Information."

Text Two is accompanied by a set of fifty-six paper samples, including practically every standard grade of wrapping paper, tissue and paperboard manufactured. Each sample is 8½ x 11 inches in size, and printed with the name of the grade, basic size and weight, finish and color. Reference is made in the text matter to corresponding samples.

This volume also has a set of ninety-nine twine samples for use in conjunction with text matter on twines. These samples of twine are clipped to cards on which is printed the names of the twine, the quality, the color and the sizes shown on the cards. If a twine is known by more than one name, additional names are also given.

Text Four, "Printing and Writing Papers," is accompanied by a set of one hundred and twenty-three paper samples, similar to the samples for Text Two. These samples include blottings, card boards, ground wood papers, coated and uncoated book papers, covers, writings, duplicating papers and a number of specialties.

The hundred and twenty-three samples that are used in connection with Text Six, consist of a wide range of weights and finishes for all standard grades included in the sets for Texts Two and Four.

These three sets of samples are indicative of the many practical angles to the training that virtually assure good results for the paper salesmen who study the course.

The paper manufacturer, it is believed, will also find the samples of great value for reference and particularly for use in duplicating unfamiliar grades.

Text Four, "Printing and Engraving," fully covers all kinds of letter-press printing, engraving—line plates, Ben Day, halftones and color plates—flat bed lithography, offset lithography, intaglio engraving, die stamping, rotogravure, varnishing, bronzing, die-cutting, ruling and all phases of bindery work. The specific paper requirements of each of these processes is fully described and demonstrated.

The Ninth Text lists all of the uses for forty-four major grades of wrapping, printing and writing papers, as well as blottings, card boards, paperboards and newsprint. Each of the markets for every paper is analyzed, together with practical sales suggestions. This type of information should prove of great value to manufacturers who wish to expand their present markets.

The nature and value of the other texts are closely indicated by their titles.

There is so much of interest to say about this comprehensive course that it is a problem where to begin or leave off. According to the announcement of the Paper Trade Institute, a descriptive booklet is now available which mill men may obtain free on request. The address is 4101 South Michigan avenue, Chicago.

The course is even better than the one originally outlined in 1926, and credit for this achievement in paper industry is largely due to the several hundred paper manufacturers, merchants, salesmen and printers who cooperated with Mr. Will H. Connelly in writing and editing it.

NEW USE FOR PAPER BAGS

The Michigan Alkali Company, of New York City and Wyandotte, Mich., is notifying the company's customers that future shipments of soda ash may be made in Taggart-Bates multi-wall paper bags. Each bag will carry 100 pounds.

The new container, which is built up of 5 plies of a special quality of kraft paper, has many advantages claimed for it, among them economy of time and labor, and reduction of loss. Each bag is virtually a nest of five separate bags united into one. The makers quarantee these bags against leakage, breakage and moisture.

The Michigan Alkali Company claims that the new paper bag cuts down considerably the amount of dust raised in handling. Paper in its very nature is impervious to dust, and with their multiplicity of paper envelopes these bags arrive at the plant as clean

as any typical paper-wraped bundle. They remain clean. Furthermore, as an aid to rapid handling, the new paper bags open easily. They empty clean; paper, having no meshes, shows no tendency to retain any pulverized material. The entire contents slides right out.

The many industries using soda ash are expected to welcome with enthusiasm this new container for Wyandotte Soda Ash. Through the adoption of the hundred pound unit the speed of handling is increased. Batches may be proportioned without weighing, in many instances, as there is no loss of material in transit or in dumping. Storage problems are reduced, as there need be no fear of damage by moisture or the intrusion of foreign materials.

Naturally, the new container was not adopted without exhaustive preliminary tests. These multi-wall paper bags have been in use in other industries for many years. In every case they have proved so satisfactory that the consumption increases by many million yearly.

National Forestry Appropriation

R. S. Kellogg, chairman of the National Forestry Program Committee, has addressed the following communication to Colonel Roop, Director of the Bureau of the Budget, Washington, D. C., regarding the necessity for an adequately sustained National Forest Policy:

"I am familiar with the somewhat difficult situation in which you are placed through the demands for appropriations of every conceivable nature on the one hand, and the very proper Administrative attitude on the other, that economy and efficiency must be the guide in these matters. However, I do wish to call your attention particularly to the fact that in the establishing and carrying out of the National Forest Policy, the government several years ago undertook a series of very distinct obligations, as set forth in such organic Acts as the Clarke-McNary Law, the McNary-Woodruff Law, and the McSweeney-McNary Law.

"These three Acts are really different phases of the same picture, and the consistent carrying out of their provisions over a long period of years is absolutely necessary for the conservation and development of our forest resources. In no item of these Acts has the Federal appropriation yet come up either to their authorization, or, more specifically, under the McSweeney-McNary Act of 1928, to the plan of annual stepping up over a ten-year period, which was accepted by both Houses of Congress as the Administrative carrying out of the spirit behind the Act.

"The exceedingly serious forest losses this year again emphasize the necessity for an adequately sustained policy in these matters. I feel sure that in writing you in this fashion, I voice the sentiments of every one who knows the facts."

Cellulose From Sugar Cane

At the request of the manufacturer, a sample of alpha-cellulose made from sugar cane was tested for its suitability for use in the rayon industry at the Bureau of Standards, Washington, D. C. Alpha-, beta- and gamma-cellulose, copper number, KOH-solubility, ash and iron determinations were made. From the results of these tests the pulp appears to be quite satisfactory for rayon use, as far as the properties tested are concerned. The alpha-cellulose content was high and the copper number quite low, indicating a high degree of purification. The beta-cellulose content and the portion soluble in caustic potash further bear this out. The beta-cellulose made up the difference between the alpha-cellulose content and the total fiber, and the portion soluble in KOH was low. The ash content was very low. Some iron was present but it was a very slight trace.

Canadian Paper Exports Increase

Canadian exports of pulp and paper in August were valued at $17,449,227, according to the report issued by the Canadian Pulp and Paper Association. This was an increase of $2,064,896 over the July total and of $1,885,752 over the total for August 1928.

Wood pulp exports for the month were valued at $4,272,047 and exports of paper at $13,177,180, as compared with $3,618,205 and $11,945,270 respectively in August 1928.

Exports of the various grades of pulp and paper for August 1929 and 1928 were as follows:

	August, 1929		August, 1928	
PULP:	Tons	$	Tons	$
Mechanical	19,606	557,646	17,834	500,216
Sulphite bleached	25,989	1,904,507	18,915	1,519,578
Sulphite unbleached	19,791	966,515	17,252	840,455
Sulphate	13,265	767,921	12,000	698,351
Screenings	4,560	75,458	2,913	59,605
	83,211	4,272,047	68,914	3,618,205
PAPER:				
News print	217,638	12,659,566	179,334	11,473,052
Wrapping	1,474	161,717	1,342	146,730
Book (cwts.)	6,695	54,818	7,260	56,135
Writing (cwts.)	692	5,881	642	5,021
All other	.....	295,198	.....	264,332
		13,177,180		11,945,270

For the first eight months of the current year the total value of pulp and paper exported from Canada amounted to $130,033,538 as compared with a total of $124,789,718 for the corresponding eight months of 1928; an increase for this year of $5,243,820.

Wood pulp exports for the eight months were valued at $28,869,844 and exports of paper at $101,163,694, as compared with $29,854,839 and $94,934,879 respectively in the eight months 1928.

Details for the eight months' period are as follows:

	Eight Months, 1929		Eight Months, 1928	
PULP:	Tons	$	Tons	$
Mechanical	128,438	3,525,118	121,761	3,327,596
Sulphite bleached	173,781	13,183,095	166,335	12,589,714
Sulphite unbleached	126,852	6,276,353	142,648	7,173,701
Sulphate	92,253	5,459,557	107,544	6,357,832
Screenings	24,005	425,721	19,990	405,996
	545,329	28,869,844	558,278	29,854,839
PAPER:				
News print	1,627,631	97,074,303	1,412,170	90,942,977
Wrapping	10,202	1,105,170	10,713	1,173,549
Book (cwts.)	50,324	427,167	43,503	358,956
Writing (cwts.)	3,806	34,309	3,467	31,988
All other	.....	2,522,745	.....	2,427,409
		101,163,694		94,934,879

Pulpwood exports were higher in August than for some years past but for the first eight months were smaller than for the corresponding months of 1928. Total exports of pulpwood for the period amounted to 933,297 cords valued at $9,340,714 as compared with 1,110,327 cords valued at $10,772,138 in the eight months 1928.

L. L. Brown Paper Co. Issue New Catalog

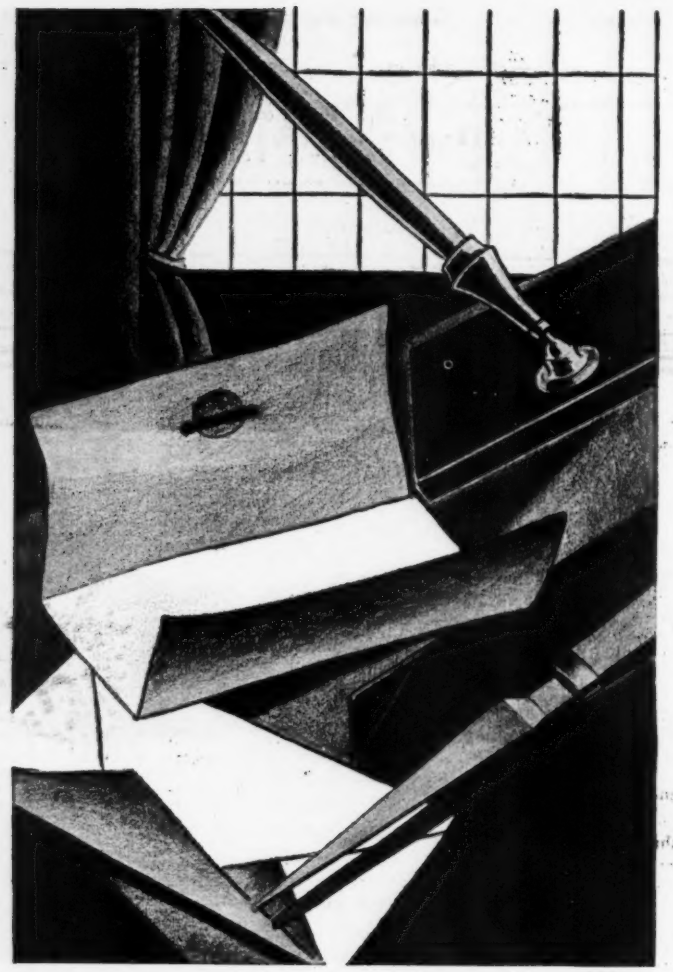
The L. L. Brown Paper Company of Adams, Mass., has issued a new catalog of its lines. A distinctive feature is the fact that it indicates not only the stock items, but also gives the actual percentage of rags of which each L. L. Brown paper is made. In addition it also states the kind of rags used in the manufacture of each of the company's products. This is said to be the first instance of a paper mill revealing such information about all its lines.

The catalog also describes the new plan which the company recently adopted in regard to the certification of its papers and absolute guaranteeing of the quality, durability and permanence of all records made from them.

Copies of the catalog may be obtained upon request.

Technical Association Papers, Series IX Wanted

E. H. Anderson, director of the New York Public Library writes to say that he has been unable to get a copy of Technical Association Papers, Series IX, No. I which was published in June 1926. This yearbook is needed to complete the set at the library and is in constant demand. If any member has a copy of this book his generosity in contributing it to the New York Public Library will be appreciated. The copy may be sent direct to Mr. Anderson or to R. G. Macdonald, Secretary of TAPPI, 18 East 41 Street, New York.



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AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.

Edited by
RONALD G. MACDONALD, Secretary

Strength Testing of Wood Pulp*

By Harry C. Bradford[1]

This method which I am about to outline has been worked out by the pulp committee of the mills in the Kalamazoo valley. We have been working on this for about three years and have finally adopted this standard procedure, which is as follows:

Samples of pulp are taken from the shipment at the same time that the samples are taken for the moisture test and are taken by the same procedure. The portion for the pulp test is weighed, separated from the other and a few samples put into the drying oven and dried to bone dry weight in the same manner as for the moisture test. Then for the beater test 540 grams of the bone dry pulp are taken. Do not use the samples that have not been put in the oven as it has been experienced that you will get a different test than if you take the samples that have been completely dried out.

The equipment used consists of the following: Standard Valley Iron Works Niagara type adjustable bed plate beater, equipped with a calibrated water tank feeding to the beater through an inlet in the bed plate. Appleton Machine Company sheet mold (Egan design) equipped with a Penberthy water ejector and vacuum gauge. Appleton Machine Company hydraulic laboratory press (Egan design) operated by a manual hydraulic pump commonly used for testing boilers, and equipped with a standard pressure gauge reading up to 250 pounds per square inch.

Beater Furnish

The beater is furnished with 540 grams of bone dry pulp and 24 liters of water. It is to be noted that in determining the amount of water to be added to the pulp the difference in weight between the wet pulp and the 540 grams of bone dry pulp is subtracted from 24 liters, and this difference taken as the volume of water to be added. Thus exactly 24 liters is always used and the beater consistency held at 2.25 per cent bone dry stock or 2.5 per cent air dry stock.

The beater is charged without any weight on the bed plate arm. Ten liters of water are first run in and the pulp added after being torn up into small pieces as rapidly as the beater will take it without plugging the backfall. Additional water is run in as need be in the following amounts: 5 liters, 5 liters, 2 liters, 2 liters less the water in the pulp.

The time for this operation varies from ten minutes for wet sulphite to thirty minutes for dry kraft.

The standard weight supplied with the beater is put on the bed plate arm as soon as the beater is completely furnished. The beating time is taken from this point on. The beater roll revolves at a speed of 410 revolutions per minute. The weight of 4072 grams is so placed that the set screw fits into the hole in the end of the bed plate arm.

Sampling

Samples are taken at 30 minute intervals for 150 minutes. At each beating interval a 500 cc. sample is withdrawn from the beater without interrupting the beating. Three sheets are made using 100 ccs. of stock per sheet. The remaining unused pulp is returned to the beater immediately.

Sheet Forming

In forming the sheet a 100 cc. beaker is used, filled until the pulp is exactly level with the top of the beaker. The diluting water for the sheet mold is back-washed into the mold and the stock added the instant the water appears above the wire. While the mold is filling, the stock is violently agitated by hand without removing the beaker. The instant the mold is filled, the beaker is removed, the outlet valve opened (the inlet valve is also left open) and the stock easily agitated by slowly drawing the hand, held fan-shaped with fingers extended backward and forward through the diluted stock. This is continued until the stock is within 2 to 3 inches of the wire. Care must her be taken that the fingers do not touch the stock formed on the wire.

The mold is kept closed until the water has been completely drawn from the lower chamber, as can be noted by the sound set up in the ejector the instant air starts to be sucked through the sheet.

The mold is then opened with the water still flowing through the ejector and a sheet of used felt placed over the wire. A photographer's squeegee roll is used as a couch roll. This is rolled over the felt until the sheet completely covers the top of the hand sheet lying on the wire, and is sucked into the wire around the edge where the upper portion of the deckle has kept the wire free from stock. When this is properly done it will be found that a vacuum can easily be built up in the mold. When the gauge registers from 4½ to 5 inches vacuum, the water passing through the ejector is turned off and the sheet couched. The hand sheet still adhering to the felt is pressed on the hydraulic press, stock side up, covered with a felt, and pressed to 125 lbs. per square inch. The pressure is released the moment the pressure reaches this point.

The sheets are air dried about 24 hours and afterward put into the humidity room where they are brought to a humidity of about 55.

* Presented at the fall meeting of TAPPI, Richmond, Va., Sept. 25, 1929.
[1] Member TAPPI, Secretary, Rex Paper Company, Kalamazoo, Mich.

After drying the three sample sheets, two out of the three are chosen for the remaining test, the choice being made on those two having the best formation.

The sheets are then removed and popped immediately. Five pops are taken on each sheet, one in each corner and one in the center. Humidity and temperature are recorded at the time the test is made.

Strength units are expressed as follows: The weight in grams of the 5¼x5¼ inch sheet is converted to a basis weight of 25x38-500. The average of the five pops is divided by this basis weight to give a strength unit expressed in points per pound ream 25x38-500. The average of this value for two sheets is taken as that of the beating interval, and the usual graph of a strength against beating time is plotted from this data.

You will note from this procedure that we have outlined this for a Valley Iron Works Niagara type beater. We find that this beater gives us approximately the same test as given in a large beater. We also have taken samples from one bale of pulp and sent them to the different mills and we found that those who had a Niagara beater got practically the same test on the sample, and those who used the ball mill would get in 30 minutes about the same as we got with 60 minutes in the beater. Our experience has proven that the ball mill is not as practical as the small beater, although it can be used in making tests. We are not outlining the procedure for the ball mill in this test. Of course, we know there are some mills whose laboratory equipment contains a ball mill and they, no doubt, would not want to discard it, but we believe they should specify on the test whether a ball mill or beater has been used so that one who has made these tests will have a chance to know the kind of equipment used.

New Text on Papermaking

MODERN PAPER-MAKING. Robert Henderson Clapperton and William Henderson. London, Benn, 1929. 365 p. Price 31 s. 6 d.

This book presents a concise and comprehensive review of modern paper manufacture. It contains twenty-four chapters, which are so arranged that the manufacture of paper is followed from the collection of the raw material through the different stages of preparation to the finished product, descriptions being given of the chemicals employed and of the methods of soda recovery.

A quantity of very useful information is given in the sections dealing with the treatment of esparto grass and rags, and the subsequent manufacture of paper from them. It is, however, to be regretted that the information on the acid sulphite and soda processes should be so scanty. Three chapters are devoted to the Fourdrinier machine, which is dealt with in an exhaustive manner. There is also an excellent chapter on newsprint. Owing to the enormous consumption of paper of this variety, the modern methods of manufacture of news print and cheap printing papers regarded from the engineering aspect have developed during the last twenty-five years to a highly specialized and technical system, and in this respect the manufacture of newsprint differs from the paper-making as generally described.

An authoritative account of the manufacture of handmade paper by Mr. J. B. Green, of Hayle Mill, Maidstone and a chapter on the fractional digestion of bamboo, by Mr. W. Raitt, are included.

Having regard to the complicated engineering and mechanical side of paper-making the authors have succeeded in presenting this difficult subject with its recent improvements in a very readable manner.

A useful appendix of Tables and Paper Trade Customs is given, together with appendixes on the Rabus beater and the "Mould" machine. There is also a good large-scale diagram of a Fourdrinier machine, with sectionalized electric drive.

The book is well arranged and contains a large number of illustrations representative of processes and machinery.

This review is adapted from one appearing in a recent number of the Bulletin of the Imperial Institute.—C. J. WEST.

Letter from American-Scandinavian Fellow

Kramfors A/B, Kramfors, Sweden.

Mr. R. G. Macdonald, Secretary,
T. A. P. P. I., New York, N. Y.

Dear Mr. Macdonald:

It is some time since I received your kind letter of May 15th and during the interval I have had a very busy and enjoyable time at both Kramfors and Franö. I expressed to you before the kindness I have received at the Kramfors Aktiebolag mills and I can assure you the stream of continuous courtesy has been flowing very steadily. I could enumerate many instances of favors from Baron Mannerheim, Overingenior Orrmell, and Doktor Johansson, which have made my stay here so very pleasant.

I had intended leaving Franö next month or early in October. Through the courtesy of Mr. Orrmell I have been able to get another location for a time with Kornäs sulphite and sulphate mills at Karskär and will spend some months there working for Overingenior Brobeck. It is pleasant to know that the Swedish companies are receiving a member of our American organization in such a splendid way.

Next week I am leaving for a trip to Munksund on the invitation of Mr. Birger Sundbeldt, who was in America some months ago, and hope to be able to visit Husum and Obbola on my journey. Mr. Unden of Nensjö has also extended me an invitation to spend a few days there. With so many expressions of friendship toward a foreign visitor you can readily understand my kindly feelings towards Swedes. I shall, after my little trip, write you somewhat more fully.

In spite of my atrocious handling of the Swedish language, which has proved rather difficult for me, I have had a most enjoyable stay here in Norrland. I hope that my stay among our Swedish friends will in some small way help in furthering a friendly feeling between our own land and Sweden. I know I shall return with a new and appreciative viewpoint about a country that was quite unknown to me before.

With very kind regards,

Yours truly,
W. F. GILLESPIE

New TAPPI Members

Salvador Arena, President, La Aurora S. A. Paper Mill, Mexico City, Mexico.

E. L. Brooks, Vice-President, Brooks Paper Company, St. Louis, Missouri.

A. S. Hammond, Engineer, Western Waxed Paper Company, N. Portland, Oregon.

P. B. Holden, Chemist, Rising Paper Company, Housatonic, Mass.

R. W. Hooper, Chemist, Pacific Mills, Ltd., Ocean Falls, B. C.

Hans John, Research Chemist, Kimberly-Clark Corporation, Neenah, Wis.

Col. C. H. L. Jones, President, Mersey Paper Company, Liverpool, Nova Scotia.

P. E. Joslyn, Chemist, Beaver Wood Fibre Company, Thorold, Ontario.

G. H. Lafontaine, Sales Engineer, Bennett Ltd., Montreal, P. Q.

J. S. Martin, Chemical Engineer, York Haven Paper Company, York Haven, Pa.

G. Meerbergen, Assistant to Managing Director, Power and Paper Company, Corner Brook, Nfld.

S. C. Pool, Analytical Chemist, Grays Harbor Pulp and Paper Company, Hoquiam, Wash.

J. Tomkins, Assistant to Technical Director, Canadian International Paper Company, Hawkesbury, Ont.

A. E. Upton, Engineer, Pacific Mills, Ltd., Ocean Falls, B. C.

E. R. Whittemore, Research Chemical Engineer, Bureau of Standards Section at the University of Iowa, Ames, Iowa.

Shrinkage Reduction*

By Donald K. Pattillo[1]

The term shrinkage has been generally accepted by the pulp and paper industry as being an all embracive expresssion of process losses. The technical developments of the last few years, however, have indicated the desirability of a further classification of shrinkage, in order that scientific knowledge may be best applied for the solution of specific problems.

We offer as a tentative terminology the three major classifications invisible shrinkage, visible cellulose shrinkage and chemical shrinkage. It is apparent that one or more of these three shrinkage classifications is a pertinent problem in every pulp and paper mill, and that a thorough analysis of each type of shrinkage as applied to specific cases is the first step in the solution of the all important present day problem of shrinkage reduction.

Invisible Shrinkage

Invisible Shrinkage is best described as being that process loss directly attributable to cellulose decomposition by bacterial bodies.

Contrary to the general belief that shrinkage is associated with white water losses, the experience of several years has shown that so-called shrinkage losses may well start at the raw water source and progressively increase during the flow of water and stock through the mill.

Again too Invisible Shrinkage may have its inception in the raw materials. Raw material contaminated with certain types of cellulose destroying organisms undergoes continuing decomposition under favorable conditions, resulting in a high invisible shrinkage. The phenomena of invisible shrinkage and slime growth are closely related in the average mill.

It is scarcely necessary to call the attention of the average mill operator to the benefits of slime removal but there are however many advantages resulting from slime elimination and prevention that are not apparent until our attention is drawn to them through technical channels.

There are two general types of slime, one originating in vegetable growth termed algae, the other originating in bacterial growths usually found in various types of raw materials; although such bacterial growth is often found in the water supply. The algae slime does not induce cellulose decomposition, but the bacterial bodies or bacterial slime finds very satisfactory conditions for developing in a pulp or paper mill system and in so doing consumes or destroys cellulosic materials for food. The small amounts of certain sugars produced in pulping processes also offer an excellent means of propagation and development of these bacterial bodies.

Invisible shrinkage is directly caused by this second type of slime originating in bacterial growths either in the water supply or present as a contaminant in certain raw materials.

Wherever slime is present, even in relatively small amounts, it is an indication of invisible shrinkage and should be eliminated.

Slime Removal

The elimination of slime directly benefits pulp and paper mill operation in the decrease of invisible shrinkage and in many other ways.

The accumulated experience of many mills shows that slime elimination increases the life of the wet felts by decreasing the filling up of the woolen felts with slime particles, interfering with the dewatering property of the felt. In some cases certain types of bacteria attack and disintegrate the wool fibre, thereby weakening the felt.

Screen plates and wires are cleaner and in several instances slime elimination is credited with increasing the wire life.

Every paper mill operator has at some time or other been troubled with the occurrence of slime spots in the finished product. Experience has shown that when slime is present in the system it mixes with the stock and is carried through to the dryer train. There the slime particles break down under heat and the resultant paper has a loose formation and in exaggerated cases is filled with pin holes. The elimination of slime therefore insures the production of a better formed and cleaner product and decreases to a large extent the manufacture of "hay".

Slime elimination and prevention is effected through controlled chlorination at one or more points of process flow, depending upon local conditions. The chlorination process has demonstrated its value in nearly one hundred installations and many economies other than mentioned above have been reported as a direct result of slime elimination.

Recently, another step forward has been made in the reduction of invisible shrinkage. It has been demonstrated that slime elimination prevents cellulose decomposition and that in several instances the chlorination process has directly increased production up to 1½ per cent. A considerable amount of work has been done in developing a secondary reaction, to permit the utilization of the greater part of the cellulose decomposed prior to the sterilizing action of chlorine in the process.

The Lyclor process offers a solution to this problem. The addition of definite amounts of lime to beater stock containing decomposed cellulose induces the combination of such cellulose particles with lime and affords a means of retaining such material in the finished sheet. Chlorination is applied subsequent to the beating operation, to insure complete sterilization and prevent decomposition. The operation of this process in a board mill has effected an increased recovery in the amount of furnish fed into the system, equal to 1½ per cent over the former production.

Controlled chlorination at a selected point or points of application prevents cellulose decomposition and decreases the invisible shrinkage. Further economies in operation may be made by the proper application of the Lyclor process, utilizing decomposed cellulose particles, in the formation of the sheet. Sterilization of these particles is effected and subsequent decomposition prevented by the chlorination process.

Fiber Loss in White Water

Visible cellulose shrinkage is that part of process loss attributable to fiber losses in white water and is, of course, the greater part of the so-called shrinkage losses.

The white water problem is not a new one to the pulp and paper industry and much thought and attention has been devoted to the solution of this problem of economic waste. Many new types of mechanical save-alls have been designed and vacuum type save-alls have been introduced in the attempt to solve the problem from the mechanical end.

It is apparent to the average mill operator, however, that mechanical recovery alone has its limitations, in that a great part of the white water loss consists of relatively short fiber that in itself is about impossible to incorporate with the longer fibers to produce the finished product. The problem resolves itself therefore into changing the nature and size of these short fibers and particles to permit their mechanical recovery and subsequent combination with the balance of the furnish to form the paper web.

Chlorination-Coagulation Process

The work that had been done in the chlorination process indi-

* Presented at Fall meeting of TAPPI, Richmond, Va., Sept. 26, 1929.

[1] Member TAPPI; Director of Pulp and Paper Dept., National Aluminate Corp., 6216 West 66th Place, Chicago, Ill.

cated that slime elimination was but the first step in a series of reactions, capable of producing far-reaching results in the pulp and paper industry. A considerable amount of work has been done with white water and machine flow water and experience justifies the statement that by chlorination, and controlled chlorination-coagulation, stock losses can be reduced to a minimum and the successful operation of a closed system effected.

The chlorination-coagulation process is, as its name implies, the treatment of a pre-chlorinated white water with a suitable coagulating material. Such a process induces the rapid formation of a large, tough floc, incorporating the short fibers and small particles, permitting the mechanical recovery of material otherwise lost and producing a sterilized cellulose chemical product that readily adheres to the longer fibers to become an integral part of the sheet.

The incorporation of such sterilized chemically treated cellulose in the paper web produces a sheet with a denser formation, better finish and generally increased strength. The treated cellulose does not lose its structure in drying, consequently there is an absence of pin hole formation. Inasmuch as proper chlorination-coagulation affects the colloidal and semi-colloidal phases of white water, we obtain increased retentions of clay, starch and other filler material and under some conditions of operation a complete color removal is also effected in the white water. It is obvious therefore that such a process permits the recirculation of a completely clarified white water in a closed system.

The characteristics of the chemically treated cellulose particles are such as to give a greater speed of fiber and water separation, permitting increased flows to mechanical type save-all and in the case of settling tank operation, affording greater treating capacities.

Reports from several mills now using this process are to the effect that the white water after treatment shows no fiber content and is as clear and sparkling as well water.

The application of a proper chlorination-coagulation process is dependent upon local conditions and can be determined only after a complete survey of the mill in question. In general, however, the process may be successfully applied without radical changes in existing equipment and with a minimum of necessary piping and pump changes.

Coagulants

Different types of exceedingly rapid reactive coagulants have been developed for the pulp and paper field and are in commercial use today. Necessarily the type of coagulant used is dependent upon the type of product being made, as each mill offers a specialized problem as to the method and type of installation.

Chlorinated copperas has been found to be particularly effective in the treatment of pulp prepared by an alkaline process. Its use in the straw board industry has effected a saving in cooking chemicals, a reduction or elimination of customary washing, a reduction in time and power for beating, the elimination of products of decomposition and an increased yield due to the elimination of stock losses through washing and to the coagulation and recovery of short fibred material on the paper machine.

Under the usual washing procedure, the paper maker makes it a practice to wash out as quickly as possible the alkali remaining after the digestion process. He does this because he knows that if the stock were partially beaten first, it is difficult to wash out the alkali. Under this same plan, if the alkali is not removed, subsequent difficulties in machine operation result. Precipitate accumulates on the wires and felts. Further, residual alkali remaining in the paper has the effect to soften the paper during storage.

It is customary when making paper with washed stock to use a considerable excess of chemicals in cooking. If such stock is beaten without washing, it becomes softened and defibred to an undesirable extent. The logical solution is therefore to reduce the charge of cooking chemicals as well as the time during which the stock is held in the beaters. With the chlorinated copperas process, only a small residue of alkali prevails, which is neutralized by subsequent coagulation on the machine. Washing can therefore be eliminated in part or entirely. Power is saved in view of the fact that washing is diminished or eliminated and because of reduction in beater time.

In commercial operation in straw board mills, chlorine is applied at a selected point through a solution feed chlorinator and ferrous sulfate applied by a dry feeder. The chlorine-ferrous sulfate ratio is approximately one to five.

A considerable amount of research work has shown that the chlorinated copperas process is likewise adaptable to the manufacture of chestnut fiber and to the recovery of white water losses in sulphate pulp mills.

Inasmuch as the greater part of the pulp and paper produced is manufactured under conditions radically different than those of the alkaline cook processes, other types of coagulants must be used in the majority of cases.

Various combinations of chlorine, alum and sodium aluminate have proved to be particularly effective in this field. In every case, however, pre-chlorination has been shown to be necessary to produce the most efficient results. In many cases it has been noted that the pre-chlorination of a white water carried to the point of maintaining a slight residual chlorine content, has appreciably decreased the subsequent coagulating dosage, and in some instances as high as 50 per cent.

The combination of chlorine and sodium aluminate is perhaps the most rapid type of coagulation, producing an exceedingly tough floc, that resists break-down after once being formed.

In some instances chlorine and alum have proven effective, and chlorine, alum and sodium aluminate treatment has likewise its application. The use of Boothal, an alum-soda ash mixture, in conjunction with pre-chlorination, has shown excellent results in some white waters.

In general, visible cellulose shrinkage may be reduced to an absolute minimum by the chlorination and sterilization of the white water system, as necessary for the decrease of invisible shrinkage, followed by the subsequent addition of a proper type coagulant to form a chemically treated cellulose recovered by any of various methods and incorporated as an integeral part of the paper web.

Records of commercial runs have shown that under proper operating conditions, the fiber content of treated white water can be completely separated and recovered; the clarified water returned to the system and mixed with raw made up water, to effect the operation of a completely closed system.

Non-Fibrous Material Losses

Chemical shrinkage is best described as the process losses of loading, filling, sizing, etc. It is customary in paper making to speak of the percentage of retention of clay, starch, size, etc. and in reality we refer reversely to the shrinkage of these additive chemicals.

The greater part of these process losses can be materially decreased through the proper chlorination and coagulation of process water. In one mill manufacturing book and magazine stock, the white water is treated in settling tanks by the process using sodium aluminate as the coagulant. The over flow water, after treatment, contains no clay or fiber and is clear and sparkling. Experience has shown that the proper floculation of a coagulant in such water incases the clay or filler particles with a gelatinous sheath, thus increasing their retention or incorporation with the paper making fibres upon their return to the process.

Likewise starch retention is increased or starch shrinkage decreased, by the application of the same methods.

Chlorination indirectly plays a part in the operation of the unique buffer process of sizing, which process can not be said to reduce size shrinkage, but rather to effect equal sizing of a multi cylinder product with a considerable decreased size and alum furnish than is the case in ordinary operation.

The presence of slime definitely influences the condition of the stock during the beating operation and further the presence of any uncontrolled organism produces definite variations in pH conditions.

The end products of slime decomposition and cellulose break down are usually acid, the pH concentrations vary chiefly in the acid phase.

The buffer process of sizing multi-cylinder products is dependent upon accurately controlled pH concentrations, any appreciable variation in these conditions adversely affects its operation.

Through chlorination of the process flow we eliminate the danger of pH fluctuations, permitting the efficient operation of the buffer process under fairly constant conditions. The importance of thus standardizing pH concentrations by the elimination of slime is realized, in one mill where a combined chlorination and buffer process is in operation. Savings in size and alum have approximated $36,000 a year over previous operation, the board produced being better sized and having improved formation and strength.

In summary, the reduction of shrinkage can be accomplished by a thorough analysis of existing conditions and an understanding of the methods of treatment of the three types of shrinkages. Each mill offers a special problem, as water, stock and flow conditions vary in many respects and it is only through the application of the technical yardstick that worthwhile economies in pulp and paper mill operation will be obtained.

Paper Standards*

By F. T. Carson[1]

Standards are an essential part of the language of modern industry and commerce. By this I mean simply that in order for cordial relations to be maintained among consumer, merchant, and manufacturer, all must speak and understand the same language. There is no greater aid to this entent cordiale than the use of adequate, recognized standards of quality and performance of commodities. It is with reference to the work of the Bureau of Standards in helping to establish standards descriptive of the physical properties and behavior of paper about which I wish to speak briefly.

By way of illustration of the activities of the paper section of the Bureau of Standards in arriving at recommendations for standards and specifications for paper some recent studies of this nature will be briefly reviewed and the many ramifications of such studies discussed.

Such a study may originate in the demand of government departments for adequate purchase specifications, by request of a manufacturers' or dealers' association, at the instance of a technical association, or in the interest of any group sufficiently representative of a widespread need.

Sheathing Papers

Recently a report was published of an extensive investigation of commercial sheathing papers, of interest to the building industry and to every individual who spends a part of his time indoors. Manufacturers of sheathing papers were invited to submit representative samples of their products for testing. A considerable number complied with the request and a representative variety of building papers was obtained. These included machine finished and sized papers of several stocks, grades, and weights; laminated materials consisting of alternate layers of paper and a waterproofing medium such as asphalt; and saturated and coated papers consisting of a sheet of paper saturated or coated (or both) with a waterproofing medium, such as paraffin or asphalt. These various papers were tested under standard conditions for such properties as were considered of importance in evaluating their usefulness, such as weight, thickness, tensile breaking strength, bursting strength, tearing resistance, water resistance, and air permeability. The values for the properties thus measured were tabulated and discussed with respect to range of variations, interrelations of tests, and bearing on the probable worth of the materials for their intended purpose. Finally recommendations were made of the testing procedures thought necessary to properly evaluate a suitable building paper.

A study of fiber wall boards recently completed and reported is another example of the procedure of developing standard specifications for a widely used fibrous material. The study was made in cooperation with manufacturers, builders, and various government departments interested in purchase specifications. Representative wall boards of both the laminated and homogeneous types were obtained from the various manufacturers. These boards were tested for weight, thickness, bursting strength, flexural breaking strength, water absorption, and linear expansion. A specification based upon this study was then drawn up and recommended as a standard purchase specification.

It is often necessary to readjust the emphases upon the properties of the material studied. Sometimes a relatively unimportant characteristic has been overemphasized. Often an important property has been overlooked, or slighted, or inadequately evaluated. As a result of a study such as the above examples a better perspective is had, and a direct result is often to stimulate the development of a better commercial product. This has been markedly true of both wall boards and caselining papers. Although it would be ludicrous to claim for such studies a major share in such improvements, they do certainly initiate and stimulate improvement in the quality of paper and pulp products.

New Tests Required

Although a study in the standardization of a fibrous material may appear on the surface to be a relatively simple, straightforward matter, it usually happens that it is necessary to evaluate one or more properties for which there is no recognized procedure in the field of paper. Sometimes the want may be supplied by borrowing a method or procedure from some other field and adapting it to the special conditions of paper. Such cases occurred in both the studies mentioned above. The flexural breaking strength test used was similar to that commonly used for structural materials, but the result was reported differently because of the special conditions involved. In order to measure the linear expansion as a result of moisture absorption so as to indicate the likelihood of warping, a special design of extensometer was made and used in a constant humidity cabinet which had already been developed at the bureau in another investigation. A simpler expansion test was also devised involving a novel method of preparing the surface of the boards for the reference marks. For the sheathing paper a permeability apparatus previously developed in the gas chemistry section of the bureau was found suitable. The water resistance test used was one that had previously been developed in the paper section of the Bureau. Frequently, however, it is necessary to develop an entirely new testing method or device or auxiliary apparatus. Some examples of such developments are: the curl sizing test and an instrument for making the test, the ground glass water resistance test, the dry-indicator sizing or water resistance test, the wet-rub test for currency, blue print paper, etc., an extractor and friction cleanser primarily used for preparing carbon paper for testing, and a small constant humidity testing cabinet. Some tests and apparatus of this character find rather limited use

* Presented at the fall meeting of TAPPI, Richmond, Va., Sept. 26, 1929.
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while others come to be used extensively. Some devices thus developed find their way into commercial development. Instances are the curl sizing tester, the wet rub tester, and the dry-indicator sizing test which is an integral part of at least two commercial testing devices.

In addition to the development of special testing methods and devices, which are usually of a rather empirical character, considerable attention is given to the examination, standardization and improvement of existing paper testing devices and new testing apparatus developed elsewhere. The familiar bursting and folding testers have been critically studied, the variables analyzed and weighed, and recommendations have been made for standard procedures for calibration, adjustment, and use of such testers so as to eliminate as many sources of error as possible. A critical study has been made of means of measuring the bulk of paper and recommendations made so as to enable concordant results to be had with the most commonly used methods. Many testing devices of various characters have been examined, used and appraised. Inevitably some have been found good, some bad, and some indifferent. An urgent need at the present time is for a folding tester that is less time consuming and more dependable both as to consistency and accuracy of results. The ones we have are indispensable in the absence of anything better. But it is obviously possible to improve upon the folding test. I believe the solution to be in a change of front and an attack from a new angle. At best the test is only empirical and there is no reason other than precedent for the continued use of the present method. The object is to provide a means of predicting the probable resistance of paper to repeated sharp bending and should be as well measured by the residual strength after creasing in a standard manner as by the long drawn out fatigue test at present employed. The Bureau has tentative plans for experiments along this line which it is hoped may lead to an improved form of folding test. Even if the essential principle of the present testers should have to be retained it should be possible to greatly increase the testing capacity per tester, so as to accelerate the testing without much additional outlay in equipment.

There are endless opportunities for the development of special tests, empirical tests useful in appraising paper. But it is usually only in case of necessity in connection with some more general problem that such matters can receive much attention. Rather, attention, is given as far as possible to problems of more fundamental and more general character.

The bureau has cooperated fully in the establishing of a standard hygrometric state for the testing of paper, and is continually alert for improvements in means of maintaining constant hygrometric conditions and means of more accurately measuring and recording relative humidity. Much attention has been given to these matters because paper, being a hygroscopic substance, is a creature of its environment, changing continually in response to atmospheric changes. It expands or contracts, is limp or stiff, flexible or brittle, weak or strong, depending upon its content of moisture which in turn is dependent upon the hygrometric state of the enveloping atmosphere. A given paper is characterized by a definite content of moisture and has definite physical properties for a given hygrometric state, and the properties are practically constant for a given relative humidity irrespective of the ordinary temperature changes. Tests made in atmosphere of unknown and uncontrolled relative humidity or of paper which has not been conditioned under constant hygrometric conditions are virtually worthless. Some tests are much more sensitive than others to changes in hygrometric state. An investigation is now in progress the purpose of which is to study the relative merits of various types of hygrometers and psychrometers, both indicating and recording. Obviously accurate instruments for measuring the hygrometric state are next in importance to adequate means of maintaining a definite hygrometric state.

Most of the methods and testing devices for determining the physical and mechanical properties of paper are notably empirical in character. Our testing aids are no better than they are perhaps primarily because the industry has not demanded better ones to the extent of fostering research into the fundamentals underlying good testing practice. There are, however, extenuating conditions growing out of the nature of paper itself and the uses made of the material. Paper is a sheet of interlaced fibers. It owes most of its strength, not to the strength of the fibers that compose the sheet, but to the efficiency with which these fibers are bonded together, to the length of the fibers and their surface characteristics. Paper does not rupture in the same manner in the different tests such as tensile, tearing, and folding. Although most materials can not be used safely for loads much beyond the yield point, paper is useful far beyond the yield point, since much of the mechanical stretch is permanent and represents merely shifts in the fiber pattern. Not only is paper not isotropic, but the ratio of stretch to stress is characteristically several times greater in the cross direction than in the machine direction of a given sample, a condition which appears to be rather unique among materials. Furthermore, the human equation which enters so largely into the myriad uses of paper adds to the difficulty of designing adequate testing methods and apparatus, and also adds to the difficulty of interpreting the data after they are obtained. But underlying the whole difficulty there is a dearth of knowledge of the fundamental characteristics of paper.

The bureau aspires to accomplishing something in this wellnigh virgin field, as time permits. An appeal is made to the Technical Association to put more stress upon researches of a fundamental character which must form the foundation of future developments. Although no definite program of this nature has been outlined a few problems of obvious interest may be mentioned, such as:

(1) A study of tensile properties, including exhaustive data of the relation of stress and deformation. The yield point is probably very low, but little is definitely known about the nature of the curve corresponding to the usual stress-strain curve for materials.

(2) A critical estimate of the extent to which existing theory may be helpful in avaluating physical and mechanical properties The theory of plastic flow has been suggested to supplement the theory of elasticity in the study of a material such as paper.

(3) The determination of thermal expansion of paper. Because the primary cause of change in dimensions of paper is a change in content of hygroscopic moisture, the thermal expansion is ordinarily ignored as negligible. The difficulties involved in measuring thermal expansion independently of moisture effects are considerable, and nothing is known definitely about the magnitude of the coefficient of thermal expansion.

(4) A study by means of motion pictures, made with the aid of a microscope, so as to reveal the nature of the rupture which results from variously applied stresses, and show just how the fibers give way.

(5) A study of the effect of sizing upon the strength of paper. Whether or not sizing increases the strength of paper is a subject of controversy. Conceivably, both sides to the argument may be right, the precise effect depending upon the conditions. Sizing no doubt acts as an adhesive, but it may also act as an abradant.

(6) A study of the effect of sizing, hydration, etc. upon moisture equilibrium. Does sizing alter the equilibrium moisture content of a given paper, or merely alter the rate of reaching equilibrium?

Many such tantalizing problems readily occur to one. A great deal of research is necessary before the testing of paper can be put on a really logical and scientific basis.

The bureau is equipped with two constant humidity testing rooms, shared by the paper and textile sections. The paper testing equipment consists of practically all the usual testing devices and includes also a number of pieces of special apparatus not found elsewhere. The members of the association are cordially invited to inspect this equipment while they are in Washington following this meeting.

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts and Bibliography of the Technical Association of the Pulp and Paper Industry

By Clarence J. West, Chairman

Insulating Paper. Felton & Guilleaume Carlswerk A.-G. Fr. pat. 625,236, May 30, 1927.—Colloidal cellulose precipitated by electrolytes is used alone or with fibrous material for the manufacture of insulating paper.—A.P.-C.

Metal-Coated Paper. H. Glootz. Eng. pat. 294,154. Instead of winding two metal-coated paper webs together to form a roll prior to beating or rolling the roll to convert the metal powder into a uniform covering, as described in the parent specification, a single coated web is used and is rolled up so that the metal coated face is in contact with the back of the paper. A glossy or dull surface is produced on the metal covering by using a web with a smooth or dull rear surface respectively.—A.P.-C.

Wrapping Material. F. K. Wickel. Eng. pat. 294,463. Transparent wrapping material such as films of cellulose derivatives, or of paper made transparent by means of resin, is treated with mirror-forming materials, for instance by rubbing with bismuth oxychloride. The mirror effect may be preserved by coating with a dilute solution of resin, so that interference effects are produced.—A.P.-C.

Method of and Apparatus for Making Waterproof Paper. L. Kirschbraum, U. S. pat. 1,686,818, Oct. 9, 1928.—Paper impervious even to water vapor is produced by interposing a continuous asphaltic layer or film between two plies of paper. The plies are formed in the usual way on a two-cylinder paper machine, and the waterproofing agent (preferably in the form of a non-adhesive emulsion of asphalt, clay and water) is sprayed on to the surface of one orboth plies, before they are combined together, so that the waterproofing material is in the form of a continuous film of any desired thickness of substantially pure bitumen free from fiber, which lies between the two piles of paper and does not permeate the latter.—A.P.-C.

Machine for Making Elastic Paper. W. A. Lorenz assignor to The Otaka Fabric Company, U. S. pat. 1,689,037, Oct. 23, 1928.—Paper is drawn from a roll by a pair of feed rolls (the surface of which is preferably knurled or otherwise roughened) and is passed between a pair of corrugating plates. These plates have their opposed surfaces provided with corrugations which converge towards the delivery end, and the grooves gradually increase in depth from the intake end to the delivery end; they are spaced apart so that the paper can be passed between them, and the distance between them is adjustable. At the delivery end of the corrugating plates are a pair of rolls which are corrugated so as to correspond with the corrugations at the delivery end of the plates so that, as the corrugated paper leaves the plates, the corrugations in the paper will properly mesh with those of the rolls. The paper is then delivered to a pair of similarly corrugated guide plates and thence to a pair of crinkling rolls, which may or may not be corrugated similarly to the guide plates, and which have longitudinal ribs. The former face of each rib is at a decided angle, or substantially radial so as to form an abutting surface against which the paper is crinkled. In front of these surfaces are pockets of grooves in which the crinkled paper may be compressed. The crinkling rolls are driven at a slower peripheral speed than the feed and corrugating rolls. If desired, the paper may be wetted by spraying with water as it passes over the feed rools.—A.P.-C.

Paper Crinkling Apparatus. W. A. Lorenz assignor to the Otaka Fabric Company, U. S. pat. 1,680,797, Aug. 14, 1928.—This is an improvement on U. S. pat. 1,548,790 of August 4, 1925, and provides pressure means for insuring proper stripping of the web from either or both of the rolls at the desired points. The paper is crinkled, either wet or dry, by delivering from one perforated roll to another perforated roll which has a lower peripheral speed, the second roll being provided with riffles which cause crinkling of the paper. In order to ensure proper contact of the paper against the rolls, both rolls are provided with suction from the point at which the paper reaches it to the point at which it is discharged, and compressed air is blown out through the roll at this latter point to ensure proper delivery. The portion of the roll which is not in contact with the paper is blanked to prevent breaking the vacuum.—A.P.-C.

Machine and Process for Drying Crinkled Paper. W. A. Lorenz assignor to The Otaka Fabric Company U. S. pat. 1,685,427, Sept. 25, 1928. The crinkled paper is passed over a suitable number of heated drying rolls. Associated with each drier roll is a vaccum box. Each vacuum box extends longitudinally of its respective roll and has a blade which extends up into the angle between the cylinder and the paper as it is laid on the cylinder. The ends and one side of each vacuum box may have sealing strips of felt engaging the periphery of the cylinder in order to prevent leakage. Preferably there is a slight space between the blade of each vacuum box and the cylinder associated with it in order that the vacuum exerted in the box may hold the paper to that cylinder and also aid in transferring the paper from one cylinder to the next. This pressure will be exerted to a greater extent near the vacuum box and will gradually be reduced as the paper approaches the next cylinder.—A.P.-C.

Watermarked Paper. A. Plyer. U. S. pat. 1,687,140, Oct. 9, 1928. In order to produce strong, long-fibered paper with watermarks as clear as those obtained with short-fibered paper, the body of the paper is made from long fibered pulp, and a layer of short-fibered pulp bearing the watermark is applied there-to.—A.P.-C.

Paper Crinkling and Corrugating Machine. W. A. Lorenz assignor to The Otaka Fabric Company, U. S. pat. 1,686,388, Oct. 2, 1928. The paper is wetted by passing through water, is passed around a roll against which it is pressed by a small rubber covered roll, and is crinkled by means of a doctor. Cooperating with the doctor blade is a roll; immediately back of the edge, the doctor blade is relatively straight, and it is then continued backwards in a curve corresponding to the curvature of the cooperating roll, to form a relatively narrow uniform channel between the doctor blade and cooperating roll. The doctor blade preferably forms the front face of a hollow box which is preferably heated by steam. The cooperating roll is circumferentially corrugated and the curved surface of the doctor blade is also corrugated so as to match the configuration of the periphery of the roll. The paper is thus corrugated immediately after it is crinkled and while it is still wet; and as the paper is not forced down to the bottom of the grooves of the corrugating members, the crinkled paper is only partially corrugated and injury to the paper is prevented; but it is sufficiently corrugated to make it transversely elastic.—A.P.-C.

Proper Working of Waste Recovery Apparatus in Paper Mills. C. Cesconi. Bol Staz. Sper. Carte e Fibre Veg. 1928, 64-68. With iron recovery vats, the joints of the plates, the heads of the nails and solderings all collect solid matter that is detached in time and may enter the paper. Hence, all vats should be of concrete. To insure the return of clean water to the paper ma-

chine, the surface touched by the water must be smooth, visible and accessible, so as to facilitate cleaning. Iron pipes cause impurities, rust and deposits. Zinked pipes without joints avoid these. Froth must be avoided and if formed should be eliminated—C. J. W.

Process in the Cellulose Industry. Walter Peters. Apparatebau 40, 218-219 (1928). A brief outline of improvements in methods and equipment—C. J. W.

Refiner Calculations. N. Wunderlich Wochbl. Papierfabr. 59, 374-377, (1928). A mathematical analysis of the operation of the centrifugal or rotary pulp screen. The inlet conditions are more important than is generally realized; by proper subdivision of the streams at the inlet both capacity and efficiency of the machines can be increased.—C. J. W.

Flume Cuts Wood Handling Costs. Anon. Paper Tr. J. 87, No. 23, 63, (Dec. 6, 1928). A description of the 1800 foot flume between the wood mill and chipper room of the Camas, Wash, unit of the Crown Willamette Paper Co. of its operation and of the savings which it effects.—A.P.-C.

A Modern Barking Plant. W. H. Wharton, Canadian Allis-Chalmers Ltd. Pulp & Paper 26, 1541-1542 (Oct. 25, 1928). A description of the Thorne barker installation at the Edmundston mill of Fraser Companies, Ltd.—A.P.-C.

Wood Chipper. J. Rae. U. S. pat. 1,684,411, Sept. 18, 1928. A suitable bed is provided to support a rotatable disk in which a number of knives are arranged and an inclined chute disposed eccentrically to the cutting disk that it so feeds to the same, the delivery mouth of the chute just clearing the knives of the disk. The chute is clinched sufficiently to feed the blocks by gravity, and it is arranged at such an angle that the wood is not cut directly across the grain nor with it, thus eliminating to a large extent the breaking of the wood into splinters, dust, etc. The usual harmful effects accompanying the thrashing of the blocks in the spout are lessened by forming the spout, particularly at the feed end, as a V-shaped trough in which each block settles to find a comfortable support or bed. The portions of these walls adjoining the delivery end are both adjustable and replaceable to allow of advancement to give the desired support to the block and removal when badly worn. Supporting the bed knife in an inclined position, so that this cutting edge is at an angle with the horizontal gives a shearing cut instead of a direct chipping blow. The cutting of chips free from those undesirable elements that lower the grade of the pulp, lengthening the life of the knife by distributing the wear over a greater surface and incidentally saving time wasted in the unnecessarily frequent adjusting and replacing of the knife, and the production of greater speed from the cutter reducing the resistance to each chipping blow are the principal features of the inclined knife; but the reduction of vibration and the obtaining of higher efficiency in general are likewise claimed for this improved design.—A.P.-C.

Pulping Process. G. A. Mourlaque. Eng. pat. 299,965, (Sept. 24, 1927). The apparatus used consists of a single boiler arrangement having an interior hearth and lixiviator. Vegetable matter is soaked in water, subjected to the action of ozone, heated under pressure with a solution of potash obtained from the cinders of the fuel used in the hearth and of lime prepared by heating limestone therein, and finally bleached, all operations being performed in the lixiviator. After removal of the pulp, the solids in the waste liquor are recovered by evaporation and calcination in the hearth of the apparatus.—A.P.-C.

Method and Apparatus for Washing Pulp. C. A. Johnson assignor to Brown Co. U. S. pat. 1,683,782, Sept. 11, 1928. The invention relates to a method and apparatus for washing pulp of the same general type as those of U. S. pat. 1,421,664, of July 4, 1922, to Brown, Moore, Parker & Martinson. According to that patent washing takes place in a series of effects in which the pulp is received from a preceding effect (or from the digester) and is thoroughly agitated with wash liquor passing through the effects serially in the opposite direction to the progress of the pulp. It is then screened or filtered out and the wash liquor pressed therefrom and the pulp passed to the next effect for a similar treatment. The wash liquor for each effect is taken from and returned to a tank beneath that effect and overflows from one tank to the tank of the next preceding effect, i. e., towards the initial pulp treating effect. In the construction of the present patent that proportion of the liquor which passes from each to a preceding effect is taken directly from the cylinder tub or straining tank instead of from the supply tank of that effect. This results in less concentration of the washing liquor in the supply tank, since that portion removed in the general progress of the wash liquor toward the first effect is the most highly concentrated portion. At the same time, however, it causes the wash liquor in the supply tank of the next preceding effect to be more highly concentrated than before, which offsets to some extent the advantage resulting from removing the most highly concentrated portion thereof for the next previous effect; but the net result is claimed to be quite advantageous. Approximately 10 per cent of the wash liquor is usually taken from one of the "weak" effects of the apparatus, and used as "make-up" liquor for a succeeding run of pulp, the remainder being passed through the apparatus and removed in highly concentrated condition to the evaporator. The quantity of wash water added to the last effect is determined by the relative importance of these two requirements, which, in practice, must be balanced against each other. With the present construction, the number of effects can be reduced from that used with the apparatus of the previous patent without a corresponding decrease in the effectiveness of the washing; or with the same number of effects the washing is correspondingly more thorough—A.P.-C.

Dewatering Apparatus. J. T. Hoyt assignor to United Filters Corporation. U. S. pat. 1,685,085, Sept. 25, 1928. This patent relates to the American disk filter. A series of disks are carried on a horizontal shaft and rotate in a tank having a main chamber at one side thereof extending throughout its entire length. This chamber is substantially in the form of a quarter cylinder open at the top and having a curved side wall, a vertical side wall and substantially quadrant-shaped end walls. The upper surfaces of the chamber walls lie in a plane parallel to a horizontal plane passing through the axis of the shaft and the vertical side wall lies in a plane parallel to a vertical plane passing through the axis of the shaft. The tank further includes a series of individual trough-shaped chambers forming individual compartments communicating with the main chamber through openings in the vertical wall thereof. The individual compartments register with the disks and their parallel walls are spaced apart sufficiently to permit the disks to rotate freely without danger of striking against the chamber walls. The rotating disks are composed of a number of sectors each of which is composed of a wooden or metal drainage member consisting of a rectangular central section and triangular side sections connected therewith so as to form a sector shape. Ridges run longitudinally of the drainage member to form channels through which the white water may be drawn toward the inner end of the segments, which communicate by means of a tubular section with the hollow shaft, in which suction is maintained. The two sides of the drainage members are covered with perforated metal filter plates, which can easily be replaced. As the disks rotate, owing to the suction which exists inside, the portion immersed in the pulp becomes covered with a cake of fibers while the water is sucked inside and discharged through the shaft. As the continued rotation of the shaft moves the deposited cake out of the liquid pulp, the action of the suction continues to remove a further amount of water. Before the disks dip down again into the slush pulp, the pulp cake is removed by two rubber brushes, one on each side of the disk, which are in contact with the filter plates and rotate in a direction opposite to the movement of the disks, and preferably at a slightly greater speed.—A.P.-C.

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Accruing Pensions as a part of Current Operating Cost*

By Ingalls Kimball

During the last twelve months recognition of the principle of accruing pension costs during the working life of the employee has been formalized by two important government actions. The federal revenue act of 1928 specifically included provision allowing as a deduction reasonable amounts paid to a pension trust in accordance with the actual value of the accruing liability, and the interstate commerce commission on November 23, 1928, issued an order permitting current charges for the purpose of providing for future pension payments.

The internal-revenue department has for some time recognized payments to pension trusts as proper deductions from current income.

In the year 1927 there were paid to some thirty-one thousand pensioners under formal pension plans of United States railways something more than eighteen millions of dollars, to which should be added about a million and a half paid to some twenty-seven hundred pensioners under informal railway plans.

These huge amounts were disbursed as a supplementary payroll and charged as a current operating cost. Yet the railroads concerned received no value in services performed. Is this item justifiable as charged, under any reasonable theory of cost accounting? The figures in industries other than railways are probably larger, but the railway figures are quoted because of the regularity of the reported payments under the uniform system of accounting prescribed by the interstate commerce commission.

In one case a railroad has set up out of surplus a fund out of which pensions are being paid. In that instance the reserve covers only pensions which have already been granted.

There exist in industry several hundred formal pension plans and an indeterminate number of informal plans covering many thousands of employees, under which annual payments running well into the millions are carried as an expense of operation and are, therefore, charged to current production, although no service whatever is customarily rendered by the persons to whom these sums are paid. In a few cases industrial enterprises carry on their balance-sheets an item variously designated, but apparently intended as a pension reserve. These balance-sheet items are as a rule not looked upon by the corporations as of particularly sacred character, and in the past year at least one such item, running well over a million dollars, has, because of financial expediency, been extinguished as a reserve and carried into general surplus account.

In an increasing number of instances trust funds are being created; but in many cases these trust funds have been set up mainly with the idea of protecting employees. Some funds, large in gross amount, are operated on the principle of an imprest fund, payments of pensions being made out of income. In these cases, when pension payments exceed the income of the fund, the deficit is made up by an appropriation from the employer corporation as a current expense. Such funds, while decreasing by the amount of their interest earnings the apparent costs of the employer, have no real effect beyond to the extent of their interest earnings a source of income.

In a few cases funds have been set up under actuarial guidance, and trusteed either with an insurance company or a private trustee, into which are paid sums calculated to represent the present value of the future pension liability accruing because of service rendered during the current year. In these cases, and in these cases only, is the future pension liability being recognized as a proper charge against current production.

It would appear from this very meagre outline of the situation that there exists in this country a great confusion of thought on this subject; and without regard to the precise practice which should be adopted there can be no question that the whole situation wants clarifying.

As a step in this direction it is proposed to examine the following questions:

1—Are pension payments necessary to the maintenance of efficiency in a permanently operating organization?

2—Should pension costs be charged as they accrue or as they are paid?

3—Is the establishment and segregation of a pension fund necessary or desirable?

4—What effect, if any, has the establishment of a pension fund on the allocation of pension costs?

Are Pension Payments Necessary to the Maintenance of Efficiency in a Permanently Operating Organization?

For the purposes of this paper it is proposed to assume an affirmative answer to this question; nor is there lack of justification for this assumption.

* The Journal of Accountancy, Sept., 1929.

Undoubtedly cases occur in which employees of long service are dropped, without consideration, on account of old age, but these are very rare indeed. In many instances employees are retained on the payroll for years after they have ceased, because of inefficiency arising from age, to produce a value equivalent to their pay.

An examination of this situation by the Bethlehem Steel Company disclosed the fact that out of 300 men retired on pension only 111 required actual replacement. Similar figures have been disclosed by other investigations. One railway reports that, out of 48,000 employees, about 3 per cent are over 70 years of age. The pay of these 1,400 employees is more than a million and a half dollars a year, and it seems unreasonable that the actual work performed by them might be done for less than half of this amount.

Not only is the dismissal of old employees long in the service extremely rare, but progressive industrialists almost without exception are advocating the adoption of definite retirement plans; the number of concerns adopting pension plans or pension practice is constantly increasing; only in exceptional instances have plans, once adopted, been abandoned, and then only because of drastic financial necessity.

It is, perhaps, sufficient that in the preparation of balance-sheets and operating statements the employer's own statement as to the existence of pension plans or of pension practice be accepted; but it must be borne in mind that industries newly established, and sometimes those already of a certain age, fail to recognize the pension liability that may arise in the future. In these cases the accountant may well consider whether it is not a part of his duty to draw to the attention of management the future pension payments which the efficient conduct of his business may make necessary.

Should Pension Costs Be Charged as They Accrue, Or As They Are Paid?

Whatever the cause or amount of a pension paid in industry, one invariable fact precedent to its granting is length of service. A prize or bonus may be given to an individual or group of individuals at the end of any year, but the payment of an annuity for a series of years or for life is never undertaken in the ordinary course of business, except after many years of employment. If this condition be accepted as a fact, it follows inevitably that with the lapse of each year of service the liability for the eventual pension payment increases. If the granting of a pension follows years of service in a manufacturing enterprise, and if after the pension payments begin no service is rendered, it would appear to follow that the product of the active years of the employee was properly chargeable with the accruing value of the future pension.

Taking as an example, for the sake of illustration, a pension of say $400 a year, payments under which begin at age 65, it would appear that the employer of the operative who is to receive this pension should charge his production cost annually by a series of annual amounts which, at the expiration of the term of service, might be expected to equal the then value of an annuity of $400 a year payable for life. Thus, a wage-earner employed at 25 years of age, and having therefore 40 years of employment before him, would represent a pension cost to the employer during each year of service of about $38.45—that being the amount which, accumulated at 4 per cent over a period of 40 years, would produce $3,800, which is the approximate present value of a life annuity of $400.

Assuming the wage of the employee to be $1,000 a year, this amount would represent 3.845 per cent of the wage. In other words, assuming a force of employees all starting to work at 25, and for each of whom a pension of $400 a year was to be provided, the accruing annual liability would be 3.845 per cent and this would represent an added charge against production cost.

Unfortunately, the problem is not quite so simple as it would from this example appear, for the liability is a contingent one. Of a group of one thousand men now aged 25, many will die before reaching 65, so the figure can be discounted by the death element. In this particular instance death alone will bring about a reduction of about 25 per cent and we find, by reference to the tables, that, instead of 3.845 per cent the annual setting aside of 2.865 per cent would produce the same result. Many men now 25 will leave the service, and were it possible with accuracy to predict the number of withdrawals, it would be possible to set another discount figure to cover this contingency.

On the other hand, contingencies of other sorts must be considered perhaps the age at entry into the service will not be as low as 25, in which case, of course, the annual reserve would have to be larger. Perhaps a pension of two-fifths of average pay after as long a period of service as 40 years would be inadequate (indeed, it probably would). In almost every case wages and salaries will advance as length of service increases, so other balancing contingencies are to be considered.

These matters are the affairs of actuaries rather than accountants, and it is not the purpose of this discussion to determine the approximate amount of the reserve that should be set aside, but rather to stimulate the thought of the accounting profession on the subject, and to bring about an expression of opinion as to the propriety of charging currently accruing pension costs against current production.

Let us look at the question for a moment from another angle. Let us assume that a manufacturer of wire goods has installed an accurate system of cost accounting. Each section of his business is treated separately. Among other things he makes hairpins, window screens and radio equipment. As the years go on the window-screen business, to which he charges raw material, rents, power, labor and other costs going into the production of window screens, continues normal. He knows exactly how much each ounce of window screening costs—when his sales represent a profit and when they represent a loss.

Until 1922 his hairpin department was large and profitable, and here again he knew every item of cost. Beginning in 1922 the use of hairpins, because of a change of fashions, fell off to the point that the further manufacture of this article was entirely discontinued. At the same time the radio industry came along, requiring equipment which could profitably be made in the same space that had been occupied by the hairpin department. His hairpin machinery had been scrapped, but because, he had been setting up a depreciation charge against production costs, the scrapping of this machinery did not represent an accounting loss.

Most of the employees who had been employed in the hairpin department easily adapted themselves to the making of radio equipment; but a few of them who had been long in the service were unable, because of their age, to take on new methods and had to be dropped. To have discharged these old and faithful employees without financial consideration, would not only have been unpleasant and unethical, but from an entirely hard-headed business viewpoint it would have been impractical and costly. The whole spirit of the organization would have broken down under it. The criticism of the community would have been hard to bear and would have adversely affected the hiring of new people. And so these old men were pensioned.

Query: What would be the competitive situation of this manufacturer in the radio industry should the pensions paid to the former employees of the hairpin department be charged against radio equipment? Yet surely these men could not be charged against window screens.

At this point the so-called "supplementary payroll," as a device for taking care of pension costs, shows its fallacy. In practice these pensions would probably go into general overhead account, and with the increase of the pension roll there would be an increasing drain on general profits that would be difficult to account for and impossible to correct. True, the profits of the hairpin department had been substantial, but since they had in all likelihood been disbursed as dividends year by year to former stock-

holders, it would be manifestly impracticable to recover the costs from this source.

It is not clear that this charge, which really came about because of the hairpin department, ought to have been set up while the hairpin department was profitable; or, if the charge of 2 per cent or 3 per cent of the labor bill to pension reserve was in itself sufficient to throw the hairpin department in the "red," would it not have been better to know this than to have continued, with a mistaken idea of profit, to pile up a liability for other departments of the business to bear?

Knowing nothing of the technical science of accounting I hesitate to announce general principles; but it seems to me logically inescapable that production cost is properly chargeable at the time the goods or services entering into production are used, and not at the time they are paid for. So far as I know, every item, whether it be material, labor, rent or depreciation, is chargeable to production on this basis, pensions alone being charged at the time of payment.

Is the Establishment and Segregation of a Pension Fund Necessary or Desirable?

Sound pension accounting and sound pension practice do not require the segregation of the money out of which pensions will eventually be paid, any more than the meeting of any other obligation requires the segregation of money for its liquidation. Referring again to the similarity between the setting up of pension reserves and the setting up of depreciation reserves, it is clear that the changing of depreciation and the crediting of reserve account do not involve the payment of money.

When machinery is replaced its purchase is financed out of funds currently available, and so pensions may be paid out of funds currently available, though charged when paid to the reserve and not to current production A pension falling due under a properly organized and announced plan has a status precisely similar to that of any other obligation. It becomes, in fact, a series of notes payable monthly or otherwise, beginning at a certain date.

If in setting up the reserve the value of these notes has been taken at their present worth on a definite interest basis, it is obviously essential either that the money be segregated in securities that would realize the accepted interest rate or that interest be annually credited on the reserve itself. In this latter case the interest charge is not a pension charge but is chargeable against the same account as that on which all the other interest charges of the business appear; it is, in effect, a payment by the corporation tor the use of money which might otherwise have been invested.

A good many executives, feeling a keen sense of moral obligation to employees who have served the business under their direction, have brought about the setting up of substantial pension funds segregated from other assets, mainly with the idea that the future pensions of present employees should be safeguarded. In most instances there has been no effort to relate the amount initially put into the fund, or the amount added to it year by year, to the existing pension obligation. The funds have been arbitrarily set up and amounts paid into them have been considered merely as a segregation of a part of surplus. The amounts actually paid to present pensioners, even though paid out of the fund, have under these plans been charged to operation as supplementary payroll. Obviously, such funds, ethically desirable though they may be, have no bearing whatever on the accounting problem. On the other hand, when it is suggested to an employer that he set up a pension-reserve account, these funds, of which he has perhaps some knowledge, come to his mind, and he considers the problem to be one of the disbursement of cash rather than of proper accounting.

In almost every announced pension plan will be found a paragraph permitting the employer to "alter, amend or altogether to withdraw the plan," and even in some instances to decrease or discontinue pensions, payment of which has already begun. Without definite knowledge as to the probable eventual cost, wise business men have sensed the possibility of a heavy increase of pension disbursements, and have hesitated or declined to commit a future management to the payment of large and indeterminate sums.

For the very reason that most pension plans are non-contractual, the accountant has in this country given them less attention than might otherwise have been the case. Many executives of important businesses, which have for years made regular disbursements, have told me that since the pension was a voluntary matter, determined in amount and terms at the date of grant, future pension payments did not constitute an obligation that could properly be considered a balance-sheet item. Technically there seems no doubt that this position is well taken. When tested in the courts it has, so far as I know, been consistently supported by the decisions handed down. On the other hand, there is, of course, no legal obligation upon any business to set up a depreciation reserve. Its property may legally be carried at cost. The only obligation lying on the accountant in this case would be to state the facts.

The whole tendency of good business, however, would appear to be in the direction of over-depreciation rather than under-depreciation, and the balance-sheets of most soundly conducted businesses show a depreciated value on plant items that is lower instead of higher than the actual value.

In view of all the facts it would seem that conservative financing requires the carrying of future pension payments as a contingent liability.

If currently accruing pension costs are to be charged to current operation and if a pension reserve item should show as a liability in the balance-sheet, it is obviously essential that these matters be translated into dollars and cents.

A pension is a payment beginning at a certain period and continuing for life. It is, in fact, an annuity, and is now beginning to be so termed by many employers. The value of an annuity depends upon the length of life of the annuitant. It is, therefore, an insurance question.

True, the life expectancy for a man who at the beginning of the year is 65 years of age is indicated in various tables, and these tables and an assumed interest rate are the bases on which insurance companies calculate annuity values; but there is no assurance whatever that the life of any individual, or indeed any limited number of individuals, will conform to the tables. Insurance companies, whose business concerns itself with life expectancy, give small weight to any experience comprising less than 100,000 life years. Thus, a business with 100 or 1,000, or even 10,000 employees, only a small proportion of whom would come to pension status in any year, might easily find itself seriously embarrassed were it to assume a definite annuity value equal to that used by the life-insurance companies. With this warning in mind, it is proper to consider the amount of the annuity reserve to be set up as that which would equal the purchase price of an annuity from a life-insurance company.

On the subject of obligating future managements the pension committee of the board of governors of the New York stock exchange said:

"A pension promise made today should be covered by financial provision made today, rather than left as a responsibility for a future board. In other words, the system should be set up on a reserve basis in such fashion that its assets may always equal its liabilities, and if change or abandonment become necessary or desirable in future years, such change or abandonment may take place without the breach of any promise or the deposit of any additional funds."

The principles here suggested fall in well with the amount of allowances chosen by many businesses on a basis giving effect to length of service and salary. Let us assume that a pension, payable normally beginning from the age of 65, is to consist of 2 per cent of the average salary of the employee during his whole

period of service. An employee whose salary is $100 a month would be entitled for each year of service to 2 per cent of $100, or $2.00 a month. If he continue at this same salary for say 35 years, his eventual pension will be 35 times $2.00 a month, or $70.00 a month. In point of fact, it is probable that by the time he reached retirement status his earnings might be $150.00 or even $200.00 a month. His annuity would have automatically advanced for each year of service as his salary advanced until, at the end of 35 years, the accumulated annuity might equal $90.00, or perhaps $100.00 as compared with a final salary of say $175.00 or $200.00. In a large number of cases an annuity of 2 per cent of the average salary over the whole period of service would not vary greatly from half of final pay when, after 35 years of service, retirement status is reached.

Now an annuity of $2.00 a month, payable from age 65, has to an insurance company a perfectly definite value. For an employee now 20 years of age a single payment of $24.34 would secure an annuity of $2.00 a month, payable from age 65; at 30 this cost will have risen to $37.60; at 40 to $58.40; at 50 to $93.60.

It is to be borne in mind that such annuities as are here discussed do not involve a series of payment, the amounts quoted being the entire reserve necessary to produce the annuity. Thus, when an employee 30 years of age is promised an annuity of 2 per cent of this year's salary, and the salary is $100 a month, the setting up of a single amount of $37.60 would, without any further payment but merely by its own accretion from interest and from deaths occurring before age 65, provide a sufficient fund to pay the annuity for life. This is a very important point.

A board of directors, offering a pension of 2 per cent of each year's salary, has fulfilled its whole obligation when the reserve set up is sufficient to produce, by its own accretions, an annuity equal to 2 per cent of this year's salary for each employee currently on the rolls. The reserve set up this year provides nothing in the way of pension for the service rendered in any subsequent year, nor in any past year. It does, however, completely take care of all the obligation that may ever possibly exist because of this year's service. Under a plan thus carried forward from the beginning of any enterprise, the reserve is always complete and any change which may subsequently develop as desirable may be made without in any degree affecting the stability of the pension that accrued prior to the change.

The system here outlined is an annuity system operating as a complete and finished thing year by year. Obviously, when employees leave the service to pension status, the reserve that has been set up with respect to their annuities is free for credit to operating account, or for use in the reserve for other employees. On the other hand, if a plan such as this be established after an industry is already well along in years, it may be made retroactive only by establishing a reserve covering the past service of present employees. These are details of practice that have no proper place in this discussion. The suggested scheme has been thus very roughly outlined mainly as an example of one way in which pension costs may be assessed as they accrue.

The status of pension schemes in mergers and receiverships is much simplified by a plan of this type, and in these days of corporated mobility such questions are by no means unimportant.

There are great advantages ethically, practically and financially in such schemes supported by joint contributions of employer and employee; that such schemes have in the past been undertaken with some diffidence is largely accounted for by the fact that employers have been loath to undertake schemes which were necessarily contractual, and which might bind future boards of management to indeterminate obligations. This situation is now clearing rapidly, and the great majority of schemes now being adopted by enlightened industries are on a contributory basis.

This heading is carried mainly for the purpose of emphasizing the facts already outlined, namely, that the real pension cost is the present worth of the future pension liability arising in any year out of that year's service. From an accounting viewpoint it makes no difference whatever whether the amount of this cost be paid over to a trustee, segregated among the assets of the corporation, carried as a book reserve, or used in the purchase of deferred annuities from a life-insurance company.

Many companies have arbitrarily set up large funds which, as hitherto pointed out, have been invested, the interest on which has been used in whole or part payment of current pension disbursement. Others have from time to time arbitrarily thrown into the pension-reserve account sums greater or less in accordance with the profits of the year. The amounts thus paid into funds, if such exist, do not constitute true pension cost any more than the amounts paid out in pensions constitute true pension cost.

It is essential that the accountant carry in his mind the difference between the financing of future pension payments and the proper charging of present pension costs.

If this discussion has served to stimulate the thought of the accounting profession on the whole subject it will have fully accomplished its purpose.

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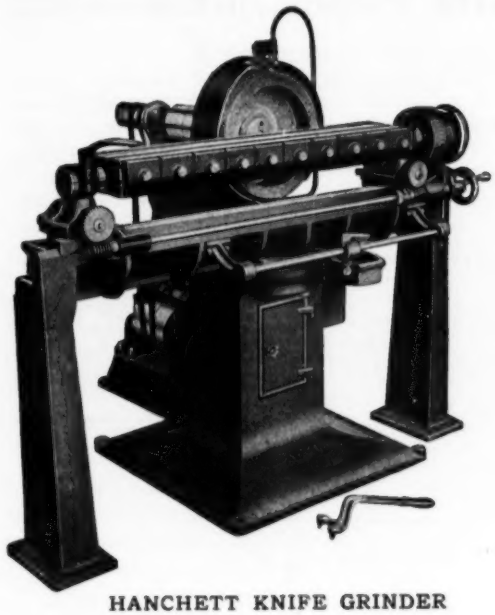
WATERTOWN, N. Y., October 14, 1929.—The estate of the late Henry W. Stebbins, founder of the Stebbins Engineering and Manufacturing Company, valued at $71,000, is bequeathed to the widow, Mrs. Sarah E. Stebbins, under the terms of his will which has just been probated. Mr. Stebbins, who was an expert on the manufacture of chemical pulp, died in this city on August 20. The will was offered for probate before Judge Fred Grant in Surrogate's Court and was executed on August 14, 1912. The Northern New York Trust Company is named sole executor. Petition for the probate of the will shows the personal property not in excess of $70,000 and real property at not to exceed $800.



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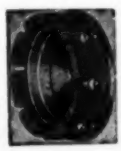

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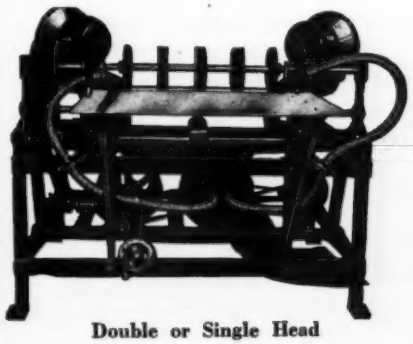

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Banco Com'l Italiane Trust Co., Nordvard, Leghorn, 197 bls. rags.
H. G. Lichtenstein, Kepwick Hall, Barcelona, 43 bls. bagging; 86 bls. rags.
Fidelity Trust Co., Kepwick Hall, Barcelona, 53 bls. rags.
Equitable Trust Co., Oscar II, Copenhagen, 1,213 bls. rags.
A. W. Fenton, Inc., Westphalia, Hamburg, 116 bls. rags.
Manufacturers Trust Co., Westphalia, Hamburg, 61 bls. rags.
Bank of New York, Westphalia, Hamburg, 13 bls. rags.
Equitable Trust Co., Westphalia, Hamburg, 45 bls. rags.
F. Stern, Westphalia, Hamburg, 193 bls. rags.
Merchants National Bank, G. Washington, Bremen, 40 bls. rags.
Banco Com'l Italiane Trust Co., Express, Constantinople, 145 bls. rags.
Equitable Trust Co., Express, Constantinople, 27 bls. rags.
W. Schall & Co., Luetzow, Bremen, 7 bls. rags.
Manufacturers Trust Co., Luetzow, Bremen, 47 bls. rags.
E. Butterworth & Co., Inc., Ambridge, Antwerp, 48 bls. bagging.
International Purchasing Co., Ambridge, Antwerp, 50 bls. bagging.
Congoleum Nairn Co., Exermont, Naples, 54 bls. rags.
French American Banking Corp., Exermont, Leghorn, 202 bls. rags.
E. Mayer, Exermont, Genoa, 17 bls. rags.
French American Banking Corp., Exermont, Genoa, 40 bls. rags.
Banco Com'l Italiane Trust Co., Exermont, Genoa, 256 bls. rags.
Hibernia Trust Co., Karlsruhe, Bremen, 17 bls. rags.
A. W. Fenton, Inc., Karlsruhe, Bremen, 52 bls. rags.
Brown Bros. & Co., Transylvania, Glasgow, 30 bls. rags.
M. Snedeker Corp., Carinthia, Liverpool, 52 bls. cuttings.

OLD ROPE

International Purchasing Co., Statendam, Rotterdam, 49 coils.
International Purchasing Co., Cabo Santa Maria Pasages, 41 coils.
International Purchasing Co., Oscar II, Oslo, 68 coils.
International Purchasing Co., Exermont, Genoa, 317 coils.
Brown Bros. & Co., New York, Hamburg, 60 coils.
Brown Bros. & Co., Pennland, Antwerp, 60 bls.
S. Birkenstein & Son, Nordvard, Marseilles, 92 coils.
W. Schall & Co., Nordvard, Barcelona, 37 coils.

CASEIN

A. Hurst & Co., Statendam, Rotterdam, 400 bags.
Atterbury Bros., Inc., Lalande, B. Ayres, 834 bags.
Atterbury Bros., Inc., Southern Cross, B. Ayres, 834 bags.
T. M. Duche & Sons, Southern Cross, B. Ayres, 417 bags.
Kalbfleisch Corp., Southern Cross, B. Ayres, 1,217 bags.

CHINA CLAY

Atlantic National Bank, Bristol City, Fowey, 103 tons, 1 cwt.
J. Richardson & Co., Bristol City, Fowey, 301 tons, 14 cwt.
English China Clays Sales Corp., Langleeford, Fowey, 560 tons.
Paper Makers Import Co., Langleeford, Fowey, 473 tons, 14 cwt.

WOOD PULP WADDING

Birn & Wachenheim, Statendam, Rotterdam, 100 bls.

WOOD FLOUR

A. Kramer & Co., Statendam, Rotterdam, 300 bags.
——, Statendam, Rotterdam, 600 bales.

WOOD PULP

Pagel Horton & Co., Inc., Tennessee, Pitea, 1,200 bls. sulphate, 200 tons.
Bulkley, Dunton & Co., Tennessee, ——, 4,650 bls. wood pulp, 775 tons.
Atterbury Bros., Inc., Oscar II, Oslo, 500 bls. wood pulp, 100 tons.
Castle & Overton, Inc., Westphalia, Hamburg, 2,488 bls. wood pulp, 372 tons.
——, Westphalia, Hamburg, 600 bls. wood pulp, 120 tons.
A. P. W. Paper Co. (Albany), Nord, Chandler, 8,301 bls. sulphite.

PHILADELPHIA IMPORTS

WEEK ENDING OCTOBER 12, 1929

Castle & Overton, Inc., Cabo Santa Maria, Pasages, 48 bls. rags; 49 bls. jute waste.
Paper Makers Import Co., Bristol City, Fowey, 531 tons, 11 cwt. china clay.
English China Clays Sales Corp., Bristol City, Fowey, 75 tons, 14 cwt. china clay.

(Continued on page 68)

Prompt deliveries made from stocks in
NEW YORK
BOSTON
PHILADELPHIA
CHICAGO

TRADE MARK

Little things count

Of course you expect to receive quality dyestuffs when you order from Heller and Merz. And equally of course you are not disappointed.

And it is satisfactory in other ways to do business with us. We are careful in packing, in making prompt shipments, in attention to requests.

Little things, perhaps . . . but they count on the profit side.

The HELLER & MERZ COMPANY
505 Hudson St., New York

Boston
287 Atlantic Ave.

Chicago
146 W. Kinzie St.

Philadelphia
114 Market St.

Springfield, Mass.
40 Albert St.

Factory—NEWARK, N. J.

LINDSAY FOURDRINIER WIRES

What counts most with you is not what we say about our wires, but what they do. We make "Spiral Weave" Fourdrinier wires, which prevent grooving of seams, also "Longcrimp" wires for Kraft and News.

THE LINDSAY WIRE WEAVING CO.

14025 Aspinwall Ave.
CLEVELAND, OHIO

NOT EVEN RALEIGH'S CLOAK

SIR WALTER RALEIGH'S cloak helped a queen over the muddy road---

But nothing in the world can bridge the gap for the pulp when a Fourdrinier wire gives out!

The liability of a broken wire interrupting the whole process of paper manufacture makes it essential that these wires be as dependable and durable as they can be made!

Tyler wires meet these requirements!

For strength of wire---for resiliency---for firmness of weave and accuracy---for ability to resist corrosion and abrasion---for all the qualities which make wires run straight and true---Tyler wires cannot be surpassed!

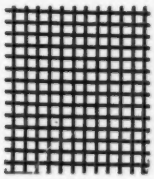
Tyler-made looms, wire drawn by a special process and woven by men of long experience, assure the dependability of our wires!

The W. S. Tyler Company
Cleveland, Ohio

TYLER WIRES

60 Mesh
Fourdrinier Wire

12 x 64 Mesh
Corduroy Cloth



14 Mesh
Cylinder Wire

Imports of Paper and Paper Stock

(*Continued from page 66*)

J. B. Moors & Co., Bristol City, Fowey, 1,068 tons, 12 cwt. china clay.
J. Richardson & Co., Bristol City, Fowey, 658 tons, 15 cwt. china clay.
Atlantic National Bank, Bristol City, Fowey, 586 tons, 15 cwt. china clay.
J. W. Higman & Co., Inc., Bristol City, Fowey, 391 tons, 18 cwt. china clay.
English China Clays Sales Corp., Langleeford, Fowey, 2,256 tons, 19 cwt. china clay; 200 casks. 100 tons china clay; 50 bags, 5 tons china clay.
Moore & Munger, Langleeford, Fowey, 2,341 tons, 5 cwt. china clay.
C. B. Richard & Co., Nordvard, Leghorn, 105 bls. rags.
Banco Com'l Italiane Trust Co., Nordvard, Leghorn, 236 bls. rags.
E. J. Keller Co., Inc., Nordvard, 49 bls. rags.
Castle & Overton, Inc., Nordvard, Barcelona, 80 bls. rags.
Brown Bros. & Co., Nordvard, Barcelona, 45 bls. rags.
National Vulvanized Fibre Co., Nordvard, Barcelona, 152 bls. rags.
Grace National Bank, Marsland, Naples, 129 bls. rags.
Liberty National Bank, Tagliamento, Naples, 147 bls. rags.
Amtorg Trading Co., Tagliamento, Genoa, 120 bls. rags.
Equitable Trust Co., Express, Constantinople, 361 bls. rags.
Belgam Corp., Ambridge, Antwerp, 54 bls. thread waste.
Castle & Overton, Inc., Ambridge, Antwerp, 344 bls. rags.
P. Hollander, Ambridge, Antwerp, 55 bls. rags.
G. W. Millar & Co., Ambridge, Antwerp, 72 bls. rags.
Phila. National Bank, Ambridge, Antwerp, 112 bls. rags.
E. Schweig Sons, Ambridge, Antwerp, 5 cs. note paper.
Old Colony Trust Co., Ambridge, Antwerp, 71 coils old rope.
D. I. Murphy, Ambridge, Antwerp, 265 bls. rags.
Katzenstein & Keene, Inc., Ambridge, Antwerp, 492 bls. rags.
Congoleum Nairn Co., Exermont, Naples, 45 bls. rags.
Congoleum Nairn Co., Exermont, Genoa, 138 bls. rags.
National City Bank, Exermont, Leghorn, 37 bls. rags.
Bulkley, Dunton & Co., Consul Cofitzen, ——, 1,250 bls. wood pulp.

BALTIMORE IMPORTS

WEEK ENDING OCTOBER 12, 1929

Bulkley Dunton & Co., Tai Ping Yang, ——, 4,275 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING OCTOBER 12, 1929

1st National Bank of Boston, Algic, B. Ayres, 835 bags casein, 50,100 kilos.
Cordingley & Co., Ambridge, Antwerp, 18 bls. rags.
Sherwin Sheppard Co., Ambridge, Antwerp, 63 bls. rags.
Mystic Waste Co., Ambridge, Antwerp, 13 bls. rags.
W. A. Feinberg & Sons, Ambridge, Antwerp, 10 bls. rags.
E. O'Donoghue Sons, Ambridge, Antwerp, 17 bls. rags.
Brown Bros. & Co., Ambridge, Antwerp, 64 bls. rags.
National Shawmut Bank, Ambridge, Antwerp, 7 bls. rags.
American Express Co., Ambridge, Antwerp, 402 rolls paper.
Baring Bros. & Co., Ambridge, Antwerp, 112 bls. rags.
Bank of Commerce & Trust Co., Ambridge, Antwerp, 21 bls. rags.
Leigh Textile Co., Ambridge, Antwerp, 110 bls. thread waste.
Bulkley Dunton & Co., Liguria, ——, 25 bls. wood pulp.
Bulkley Dunton & Co., Natirar, ——, 168 bls. wood pulp.

PORTLAND IMPORTS

WEEK ENDING OCTOBER 12, 1929

J. Andersen & Co., Tennessee, Sundsvall, 3,000 bls. sulphate.
J. Andersen & Co., Tennessee, Hernosand, 2,400 bls. sulphate.
J. Andersen & Co., Tennessee, Pitea, 3,000 bls. sulphate, 500 tons.
Pagel Horton & Co., Inc., Tennessee, Pitea, 6,000 bls. sulphate, 1,000 tons.

Ontario Specialties Not To Move To New York

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., October 12, 1929.—Rumors that the Ontario Specialties Company was contemplating removal of its business to New York City were this week emphatically denied by Carl B. Martin, treasurer of the firm. Mr. Martin also serves the St. Regis Paper Company in a similar capacity and is now stationed in the Metropolis. Officials of the Ontario Specialties Company claim that inasmuch as the firm obtains its paper supplies from the St. Regis Company it should consequently be located near the base of its supply. It was learned, however, that the business has increased to such an extent that the firm is now seeking larger quarters in this city. The plant on West Main street will be vacated as soon as larger manufacturing facilities are acquired and a number of additional employes will be added to the working force.

A. P. W. Paper Co. Elects Directors

ALBANY, N. Y., October 12, 1929.—At a meeting of stockholders of the A. P. W. Paper Company held this week directors were elected unanimously by votes representing 94,012 shares of capital stock. The new board of directors is composed of William A. Wheeler, Seth Wheeler, John J. Jansen, Thomas B. Wheeler, William L. Gillespie, Vernon D. Bierman, Spencer C. Gunn, Archibald B. Wheeler, and Robert E. Whalen. A certificate of the election of the new directors has been filed with the county clerk.

To Improve West End Mill

CARTHAGE, N. Y., October 12, 1929.—It is reported that the West End Paper Mill, recently purchased by the National Paper Products, will reopen in January employing about 250 men at the start of operations. Representatives of the new owners have confirmed the report and the work of remodeling the plant will be launched within a few days. Considerable improvements are planned in order to make the plant modern in every respect.

Algonquin May Acquire Timber Lands

[FROM OUR REGULAR CORRESPONDENT]

OGDENSBURG, N. Y., September 14, 1929.—It was reported here this week that Frank A. Augsbury, president of the Algonquin Paper Company, might acquire additional timber lands in the vicinity of the Gulf of St. Lawrence where he already owns an extensive tract which was purchased several years ago. The tract owned by Mr. Augsbury has for some time past supplied virtually all the pulpwood used at the Algonquin plant. Mr. Augsbury, accompanied by friends, left during the past week for an inspection of his timber holdings and it is possible that he may transact a deal for extending his interests at that place.

Big Paper Future for Newfoundland

[FROM OUR REGULAR CORRESPONDENT]

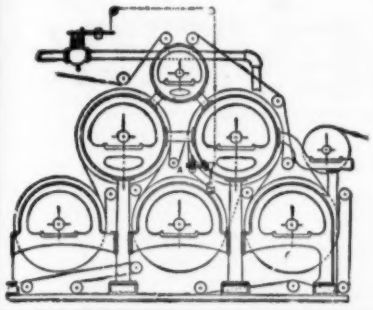
WATERTOWN, N. Y., October 12, 1929.—Following a business trip to Newfoundland Charles Valentine, president of the Bagley & Sewall Company, returned home this week much impressed with the natural resources of the region and believing that is has a great future in the paper industry. The Bagley & Sewall Company is interested in New Foundland because of the development of the International Power and Paper Company at Corner Brook and the extensive development of the Anglo-New Foundland Development Company at Grand Falls.

Pulp Department Operating Full Time at Corinth

[FROM OUR REGULAR CORRESPONDENT]

CORINTH, N. Y., October 12, 1929.—Many additional workers are again needed at the plant of the International Paper Company following announcement that the pulp department would operate full head this week. The gradual rise of the Hudson River will allow the 42 wood grinders to be used in the future and 24 pulp presses will also be operated. Many applicants for work have been taken on in the various departments and the high water now will bring up the employment number in the big plant to about 850 men.

The Pickles Drying Regulator



WE ARE SAFE IN OUR PROPOSITION

YOU'LL MAKE NO MISTAKE IN ACCEPTING IT

Pickles Drying Regulator

will do everything we claim for it and more. The test costs you nothing until you are satisfied. Many mills tried one and now have every machine equipped. Write for list of users and other information.

W. F. PICKLES **Buckland, Conn.**

The B. Boo. Inc.

QUALITY PULPS

"HAFSLUND BEAR"
Bleached Sulphite

"FORSHAGA"
Bleached Sulphite

"HURUM SPECIAL"
Extra Strong Kraft

"BAMBLE"
Extra Strong Kraft

Fresh Monthly Shipments—No Closed Winter Season

The Borregaard Company
Incorporated
200 FIFTH AVENUE NEW YORK, N. Y.

THE DRAPER FELTS

All kinds and styles of Felts for all kinds and styles of Papers.

Write us about your Felt problems and let us help you reduce your Felt Costs—we will call anywhere at any time.

DRAPER BROS. COMPANY
CANTON, MASS.
Woolen manufacturers since 1856

EASTWOOD
FOURDRINIER-CYLINDER-WASHER
WIRES

EASTWOOD WIRE CORPORATION, BELLEVILLE N.J. U.S.A.

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, October 16, 1929.

Trading in the local paper market was active during the past week and demand for the various standard grades was persistent. Supplies continue to move into consumption in satisfactory volume. Sales forces of the leading paper organizations are conducting a strenuous campaign for the closing months of the year. Prices are generally holding to previously quoted levels.

The news print market is exhibiting a strong undertone and there is some talk of higher contract quotations for the forthcoming year. According to statistics gathered by the News Print Service Bureau the total North American production for September amounted to 357,851 tons. Stocks of news print paper at the mills at the end of September totalled 57,232 tons, which was equivalent to 3.6 days average production.

Demand for the various grades of paper board is well up to average and production is being maintained in good volume. The price situation, however, remains unchanged. The fine paper market is in a sound position with prices holding to schedule. Some improvement was noticed in the coarse paper market and wrapping paper is moving in increased volume.

Mechanical Pulp

No radical changes were reported in the ground wood market. Most of the business transacted during the past week was along routine lines. With production in North America and abroad below normal of late, offerings have not been excessive. Prices are holding to the levels which have been maintained for some time past and there is little talk of concessions around.

Chemical Pulp

Steadiness prevails in the chemical pulp market. Strong unbleached and easy bleaching grades of sulphite pulp continue very firm and a large percentage of next years output has already been booked for 1930 delivery. Both domestic and imported bleached sulphite are only moderately active at present although prices remain unaltered. Kraft pulp is moving in a normal manner.

Old Rope and Bagging

Paper mill interest in the old rope market is encouraging. Both foreign and domestic old manila rope are in excellent request and, with offerings limited, prices are steady to firm. Mixed rope is also fairly active. The bagging market is practically unchanged. No. 1 scrap bagging is in seasonal demand. Roofing bagging is rather quiet at present. Prices remain unaltered.

Rags

The domestic rag market was moderately active during the past week. Cotton cuttings are going forward to the paper mills in seasonal volume. Roofing grades are rather quiet at present. Prices are steady, in most instances, and shading is infrequent. The foreign rag market continues quiet, although there are some signs of awakening mill interest.

Waste Paper

Some slight improvement was noticed in the paper stock market. While the lower grades are only in moderate demand at present, there are reported to be more inquiries for future business around than of late. Book stock is in improved request. Ledger stock is quiet. Soft white shavings are moving in excellent volume for the season. Prices on the various grades of waste paper are practically unchanged.

Twine

With the approach of the Christmas holidays, the outlook for the twine industry is improving, especially as wrapping paper is beginning to move in greater volume. Prices of the various grades of twine are generally holding to previously quoted levels without difficulty and shading is infrequent.

Albany Fibre Co. To Expand

RENSSELAER, N. Y., October 12, 1929.—The Albany Fibre Company has announced expansion plans which will virtually enable the firm to double its output in this city. Two parcels of land aggregating 75 by 290 feet have been bought near the main plant on Forbes Road as the site for a large plant addition which will cost around $100,000, according to Carl Lavine, president. The tract was acquired from John Waugh for an undisclosed amount and adjoins the present holdings of the company.

Mr. Lavine announced that the company intended to erect a four-story brick, fireproof building early next year and the greater portion of the addition will be used for warehouse purposes. The building will be about 275 feet deep with a frontage of 75 feet on the New York Central Railroad. In relating the rapid expansion of the business Mr. Lavine said that about fifty per cent of the raw material is imported from Europe and later transported by water from New York City to the plant here. The gross business of the firm so far this year is estimated at $500,000.

Officials claim that the completion of the new addition will allow a large increase in production and that with the transfer of the warehouse department to the new addition about forty new employees will be added. The firm now employs about 75 workers.

Plymouth Paper Co. Chartered

BOSTON, Mass., October 14, 1929.—The Plymouth Paper Company, Inc., of Holyoke, has been granted a charter of incorporation by the secretary of state to deal in paper and products. There is a capitalization of $50,000, with 500 shares of preferred stock, par value $100. In addition there are 1,000 shares of common stock without par value.

The incorporators are Walter E. Perry, Springfield, president, with 990 shares of common stock, Maude A. Perry, Springfield, with five shares, and James G. Midgley, Holyoke, treasurer, with five shares. The clerk is Stephen S. Taft of Springfield.

TAPPI Changes

C. H. Nystrom, formerly chief chemist Rhinelander Paper Company, Rhinelander, Wis., is now chief chemist of the Thilmany Pulp and Paper Company of Kaukauna, Wis.

A. D. Flint, formerly of Taylor Engineering Company, Cincinnati, Ohio, is now in the manufacturing dept. of the Gibson Playing Card Company, Long Island City, N. Y.

Dumping of News Print Alleged

[FROM OUR REGULAR CORRESPONDENT]

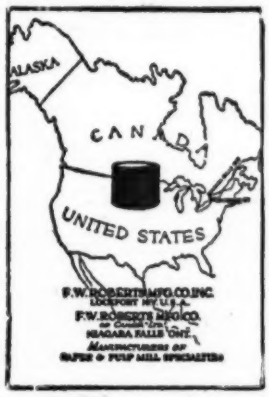
WASHINGTON, D. C., October 16, 1929.—Complaint has been filed with the Customs Bureau, Treasury Department, alleging the dumping on the American market of news print paper from both British Columbia and Newfoundland. An investigation has been undertaken by the government to ascertain the facts in the case.

GEORGE SHEVLIN AND
The TRIMBEY-SHEVLIN "Junior"

This "Junior" screens 40 tons G. W. using .065 plates using but 15 H.P. The TRIMBEY-SHEVLIN "Senior" handles 80 tons with 25 H.P.

TRIMBEY MACHINE WORKS
Glens Falls, N. Y.

B U R R S



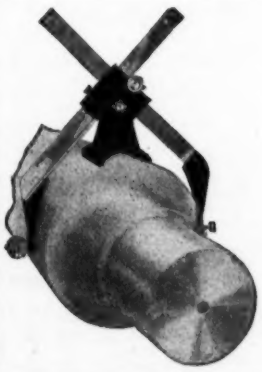
B U R R S

St. Regis Paper Company

Daily Capacity, 525 Tons

Newsprint
Catalog and Directory
Packers Oiled Manila
Fibre Wrapping
Specialties

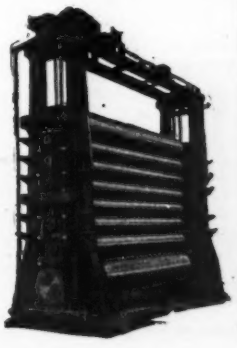
General Sales Office
15 BROAD STREET
NEW YORK



LOBDELL

Chilled Iron Calender and Press Rolls
Automatic Roll Grinding Machines
Improved Micrometer Roll Calipers

LOBDELL CAR WHEEL COMPANY
Established 1836
WILMINGTON, DELAWARE.



Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, October 16, 1929.

BLANC FIXE.—The position of the blanc fixe market is practically unchanged. Demand for both the pulp and the powder is seasonal. Prices are steady. The pulp is quoted at from $42.50 to $45.00 per ton, in bulk, while the powder is selling at from 3¾ cents to 4½ cents per pound, in barrels, at works.

BLEACHING POWDER.—Steadiness prevails in the bleaching powder market. The contract movement is well up to average for the time of year. Prices remain unchanged and there is little talk of concessions around. Bleaching powder is quoted at from $2.00 to $2.35 per 100 pounds, in large drums, at works.

CASEIN.—Trading in the casein market was moderately active. Domestic casein is still quoted at from 16 cents to 18 cents per pound. Argentine standard ground is selling at from 16 cents to 16½ cents, and finely ground at from 16½ cents to 17 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Supplies of caustic soda are going forward to the mills in good volume. Some business for the forthcoming year has been booked at current prices. Solid caustic soda is quoted at from $2.90 to $2.95, and the flake and the ground at from $3.30 to $3.35 per 100 pounds, in large drums, at works.

CHINA CLAY.—No radical changes have been reported in the china clay market. Contract shipments continue to move in satisfactory volume. Prices are steady. Imported china clay is still quoted at from $15 to $25 per ton, ship side, while domestic paper making clay is selling at from $8 to $13 per ton, at mine.

CHLORINE.—The chlorine market is exhibiting a strong under-tone. Demand from the mills is excellent. Prices are holding to previously quoted levels. Chlorine is still quoted at 3 cents per pound, in tanks, are multi-unit cars, at works, on standard contracts. The spot quotation is 3¼ cents per pound.

ROSIN.—Demand for rosin was active during the past week. Prices are slightly firmer. The grades of gum rosin used in the paper mills are quoted at from $9.35 to $9.50 per 280 pounds, in barrels, on dock. Wood rosin is still selling at from $7.00 to $8.05 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—Offerings of salt cake still continue scarce. Shipments against contract are moving in excellent volume. Inquiries for future business are numerous. Prices are firm. Salt cake is quoted at from $18 to $21 per ton, while chrome salt cake is selling at from $15 to $16 per ton, in bulk, at works.

SODA ASH.—The soda ash market is in a strong position. Production is being maintained in good volume and the output is being freely absorbed. Prices are holding to previously quoted levels. Contract quotations on soda ash, in car lots, at works, are os follows: in bags, $1.32½, and in barrels, $1.55.

STARCH.—Conditions in the starch market are fairly satisfactory. Supplies are going forward to the mills in excellent volume for the time of year. Prices remain unaltered. Special paper making starch is quoted at $3.92 per 100 pounds, in bags, and at $4.19 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Production of sulphate of alumina is being maintained in sufficient volume to take care of current requirements. Demand is seasonal. Prices are holding to schedule. Commercial grades are quoted at from $1.40 to $1.55; iron free at $1.90 to $2.05 per 100 pounds, in bags, at works.

SULPHUR.—Contract shipments of sulphur are going forward at a steady pace. Sulphur is still quoted at $18 per ton, at mine, in lots of 1,000 tons, or over, on yearly contracts, and at $20 per ton for any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—Most of the business transacted in the talc market during the week was along routine lines. Prices are steady. Domestic is quoted at $16 to $18 per ton, in bulk, at eastern mines. Imported talc is selling at $18 o $20 per ton, in bags, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	9.00	@53.25
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub sized	10.00	@15.00
Engine sized	8.00	@11.00
Book, Cased—		
S. & S. C.	6.00	@ 7.50
M. F.	5.75	@ 7.00
Coated and Enamel	7.50	@12.00
Lithograph	7.50	@12.00
Tissues—Per Ream—		
White No. 1	.75	@ 1.00
Anti-Tarnish	1.35	@ 1.90
Colored	1.00	@ 2.00
White No. 2	.75	@ .80
Kraft	1.00	@ 1.10
Manila	.75	@ .80
Kraft—		
No. 1 Domestic	6.25	@ 6.50
No. 2 Domestic	5.25	@ 5.50
Southern	4.25	@ 4.50
Imported	6.50	@ 7.00
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.75	@ 5.25
No. 2 Wood	4.00	@ 4.50
Butchers	3.75	@ 4.25
Fibre Papers—		
No. 1 Fibre	5.00	@ 5.50
No. 2 Fibre	4.75	@ 5.25
Common Bogus	2.75	@ 3.00
Screenings	3.00	@ 3.25
Card Middles	4.00	@ 5.00
Glassine—		
Bleached, basis 25 lbs.	13.00	@16.00
Bleached, basis 20 lbs.	15.00	@16.00

(Delivered New York)

News, per ton—		
Rolls, contract	62.00	@ —
Rolls, spot	62.00	@ —
Sheets	67.00	@ —
Side Runs	47.00	@52.00
Boards—per ton—		
News	37.50	@40.00
Straw	52.50	@55.00
Chip	35.00	@37.50
Binders' Boards	65.00	@70.00
Sgl. Mla. Ll. Chip.	47.50	@50.00
Wood Pulp	80.00	@85.00
65 Test Jute Liner.	52.50	@ —
85 Test Jute Liner.	55.00	@ —

Mechanical Pulp

(On Dock)

No. 1 Imported—		
Moist	30.00	@32.00
Dry	32.00	@34.00

(F. o. b. Mill)

No. 1 Domestic	26.00	@30.00
Screenings	15.00	@20.00

Chemical Pulp

(On Dock. Atlantic Ports)

Sulphite (Imported)—		
Bleached	3.75	@ 4.25
Easy Bleaching	3.00	@ 3.15
No. 1 strong unbleached	2.75	@ 3.00
Mitscherlich unbleached	2.80	@ 3.25
No. 2 strong unbleached	2.40	@ 2.60
No. 1 Kraft	2.35	@ 2.65
No. 2 Kraft	2.30	@ 2.50
Sulphate—		
Bleached	3.60	@ 3.85

(F. o. b. Pulp Mill)

Sulphite (Domestic)—		
Bleached	3.40	@ 4.75
Easy Bleaching Sulphite	2.65	@ 3.00
News Sulphite	2.50	@ 2.70
Mitscherlich	3.00	@ 3.25
Kraft (Domestic)	2.10	@ 3.30
Soda Bleached	3.10	@ 3.25
Sulphate Screenings—		
Coarse	.75	@ .95
Refined	1.65	@ 1.85

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—		
New White, No. 1	11.00	@11.50
New White, No. 2.	8.00	@ 8.50
Silesias No. 1	7.50	@ 8.00
New Unbleached	11.00	@11.50
New Blue Prints	5.25	@ 5.50
New Soft Blacks	5.25	@ 5.75
Blue Overall	7.50	@ 8.00
Washables	4.75	@ 5.25
Fancy	5.75	@ 6.25
Mixed Khaki Cuttings	4.75	@ 5.25
Pink Corset Cuttings	8.00	@ 8.50
O. D. Khaki Cuttings	5.15	@ 5.75
Men's Corduroy	3.75	@ 4.25
New Mixed Blacks	3.50	@ 3.75

Old Rags

White, No. 1—		
Repacked	5.50	@ 6.00
Miscellaneous	4.50	@ 5.00
White, No. 2—		
Repacked	3.00	@ 3.50
Miscellaneous	2.50	@ 2.75
St. Soiled, White	2.00	@ 2.15
Thirds and Blues—		
Repacked	2.25	@ 2.50
Miscellaneous	1.75	@ 2.00
Black Stockings	3.25	@ 3.75
Roofing Rags—		
Cloth Strippings	1.70	@ 1.80
No. 1	1.70	@ 1.80
No. 2	1.55	@ 1.65
No. 3	1.30	@ 1.40
No. 4	1.25	@ 1.35
No. 5A	.90	@ 1.05

Foreign Rags

New Rags

New Dark Cuttings	2.50	@ 3.00
New Mixed Cuttings	2.75	@ 3.25
New Light Silesias	7.00	@ 7.50
Light Flannelettes	7.50	@ 8.00
Unbleached Cuttings	10.00	@11.00
New White Cuttings	10.50	@11.50
New Light Oxfords	7.00	@ 7.50
New Light Prints	5.50	@ 6.50

Old Rags

No. 1 White Linens	7.50	@ 8.25
No. 2 White Linens	5.75	@ 6.75
No. 3 White Linens	4.75	@ 5.25
No. 4 White Linens	3.00	@ 3.50
No. 1 White Cotton	5.50	@ 6.50
No. 2 White Cotton	4.50	@ 5.50
No. 3 White Cotton	3.00	@ 4.00
No. 4 White Cotton	1.90	@ 2.15
Extra Light Prints	2.75	@ 3.25
Ord. Light Prints	2.25	@ 2.50
Med. Light Prints	2.00	@ 2.10
Dutch Blue Cottons	2.25	@ 2.40
French Blue Linens	2.75	@ 2.85
German Blue Linens	2.35	@ 2.55
German Blue Cottons	2.15	@ 2.25
Checks and Blues	1.85	@ 2.00
Lindsay Garments	1.85	@ 1.95
Dark Cottons	1.55	@ 1.60
Old Shopperies	1.50	@ 1.55
New Shopperies	1.50	@ 1.60
French Blues	2.10	@ 2.25

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—		
Foreign	1.60	@ 1.70
Domestic	1.70	@ 1.75
Wool Tares, light	1.60	@ 1.65
Wool Tares, Heavy	1.60	@ 1.70
Bright Bagging	1.60	@ 1.70
Small Mixed Rope	1.25	@ 1.40
Manila Rope—		
Foreign	4.40	@ 4.60
Domestic	4.75	@ 5.00
New Burlap Cut	2.75	@ 3.00
Hessian Jute Threads—		
Foreign	3.50	@ 4.00
Domestic	3.25	@ 3.50

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, white, No. 1	3.25	@ 3.50
Hard, white, No. 2	2.40	@ 2.55
Soft, White, No. 1.	2.60	@ 2.70
White envelope cuttings	3.00	@ 3.50
Flat Stock—		
Stitchless	1.45	@ 1.55
Overissue Mag.	1.45	@ 1.55
Solid Flat Book	1.40	@ 1.50
Crumpled No. 1	1.00	@ 1.10
Solid Book Ledger	2.00	@ 2.10
Ledger Stock	1.40	@ 1.50
New B. B. Chips	.65	@ .75
Manilas—		
New Env. Cut	2.40	@ 2.60
New Cuttings	1.50	@ 1.75
Extra No. 1 old	1.25	@ 1.35
Print	.75	@ .80
Container	.57½	@ .60
Bogus Wrapper	.75	@ .85
Old Kraft Machine		
Compressed bales	1.85	@ 2.00
News—		
No. 1 White News	1.65	@ 1.75
Strictly Overissue	.75	@ .80
Strictly Folded	.60	@ .65
No. 1 Mixed Paper	.45	@ .50
Common Paper	.30	@ .35

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Hydraulic Presses and Pumps

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The Textile-Finishing Machinery Company
PROVIDENCE, R. I.

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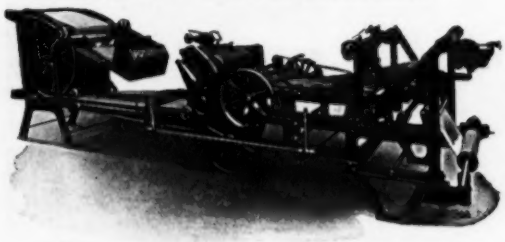

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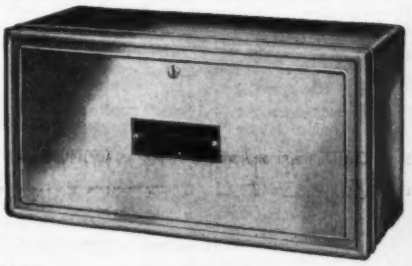

GRIFFITH-HOPE CO., West Allis, Wisc.

Twines
(F. o. b. Mill)

Cotton—			
No. 1	.39	@	.40
No. 2	.37	@	.38
No. 3	.36	@	.37
B. C., 18 basis	.38	@	.40
A. B. Italian, 18 basis	.48	@	.53
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrapping, 3-6 Ply—			
No. 1	.19	@	.21
No. 2	.18	@	.20
Tube Rope—			
4-ply and larger	.16	@	.17
Fine Tube Yarn—			
5-ply and larger	.21	@	.25
4-ply	.25	@	.29
3-ply	.28	@	.32
Unfinished India—			
Basis	.13	@	.14
Paper Makers Twine			
Balls	.11	@	.12
Box Twine, 2-3 ply	.15	@	.17
Jute Rope	.17	@	.19
Amer. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.16	@	.18
No. 2 Basis	.14	@	.16
Sisal Lath Yarn—			
No. 1	.14	@	.16
No. 2	.12	@	.14
Manila Rope	.22	@	.24

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¼	@	.11
Superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¼
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	.06¼	@	.06½
Southern Kraft	4.25	@	4.50
No. 2 Kraft	.04	@	.04¼
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue—			
24x36 Sheet	.07	@	.07¼
White Tissue—			
20x30 Sheet	.07¼	@	.07½
(Delivered Central Territory)			
News, per ton—			
Rolls, contract	62.00	@	—
Sheets	67.00	@	—
Boards, per ton—			
Plain Chip	37.50	@	42.50
Solid News	47.50	@	—
Solid News	40.00	@	45.00
Manila Lined Chip	50.00	@	55.00
Container Lined—			
85 Test	65.00	@	70.00
100 Test	70.00	@	—

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.20	@	2.25
White Env. Cuttings	2.40	@	2.50
No. 1 Soft Shavings	2.00	@	2.10
No. 1 Mixed	.90	@	1.00
No. 2 Mixed	.70	@	.75
Ledger & Writings	1.25	@	1.35
Solid Books	1.25	@	1.30
Blanks	1.40	@	1.50
Krafts	1.60	@	1.75
New Kraft Cuts	2.15	@	2.25
Manila Envelope Cuttings	1.65	@	1.75
Ex. No. 1 Manila	1.30	@	1.45
Print Manila	.75	@	.80
Folded News (overissue)	.80	@	.85
Old Newspapers—			
No. 1	.65	@	.70
No. 2	.60	@	.65
Mixed Papers—			
No. 1	.60	@	.65
Roofing Stocks—			
(F. o. b. Chicago, net cash)			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.06	@	.40
Ledgers	.09	@	.40
Writings—			
Superfine	.12½	@	.18
Extra fine	.18	@	.22
Fine	.17	@	.26
Fine, No. 2	.15	@	.25
Fine, No. 3	.10	@	.20
Book, M. F.	.05½	@	.07
Book, S. S. & C.	.06	@	.07½
Book, Coated	.09½	@	.16
Coated Lithograph	.07	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.08	@	.09
Manila Sul., No. 1	.04	@	.05½
Manila No. 2	.03	@	.04
No. 2 Kraft	.06	@	.06½
No. 1 Kraft	.06½	@	.07
Common Bogus	.03½	@	.04
(Delivered Philadelphia)			
News Print Rolls	62.00	@	—
Straw Board	52.50	@	75.00
News Board	40.00	@	40.00
Chip Board	38.00	@	40.00
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	75.00		
No. 2, per ton	70.00		
Carload lots	68.00	@	70.00
Tarred Felts—			
Regular	55.50	@	57.00
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.10½	@	.11
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07¾
Silesias, No. 1	.07	@	.09
Black Silesia, soft	.05	@	.05½
New Unbleached	.10½	@	.11
Washable, No. 1	.04½	@	.05
Blue Overall	.07½	@	.08
Cottons—According to grades—			
Washable, No. 2	.03	@	—
New Blue	.03	@	.03½
Fancy	.05¾	@	.06
New Black Soft	.05	@	.05¾
New Light Seconds	.02½	@	.03
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O. D.	.05½	@	.05¾
No. 2 Mixed	.04½	@	.04¾
Corduroy	.03	@	.03½
New Canvas	.08¼	@	.09
New Black Mixed	.03¾	@	.04½

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.50	@	1.60
Domestic	1.75	@	—
Manila Rope	3.50	@	4.00
Sisal Rope	1.50	@	—
Mixed Rope	1.10	@	1.25
Scrap Burlaps—			
No. 1	1.50	@	1.60
No. 2	1.10	@	1.20
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1, New Light Burlap	2.50	@	2.75
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	3.20	@	3.25
No. 2 Hard White	2.75	@	3.00
No. 1 Soft White	2.80	@	2.90
No. 2 Soft White	1.80	@	1.90
No. 1 Mixed	1.50	@	1.60
No. 2 Mixed	.90	@	1.00
Solid Ledger Stock	1.85	@	1.90
Writing Paper	1.60	@	1.65
No. 1 Books, heavy	1.40	@	1.50
No. 2 Books, light	1.05	@	1.15
No. 1 New Manila	2.40	@	2.50
No. 1 Old Manila	1.50	@	1.60
Print Manila	.95	@	1.00
Container Manila	.85	@	.90
Old Kraft	2.25	@	2.50
Common paper	.50	@	.55
No. 1 Mixed Paper	.60	@	.65
Straw Board, Chip	.60	@	.65
Binders Board, Chip	.60	@	.65
Overissue News	.80	@	.85
Old Newspaper	.50	@	.55

Domestic Rags (Old)

White, No. 1—			
Repacked	4.25	@	4.50
Miscellaneous	3.50	@	3.75
White, No. 2	2.00	@	2.25
Thirds and Blues—			
Repacked	2.00	@	2.25
Miscellaneous	1.60	@	1.80
Black Stockings (Export)	3.90	@	4.25
Roofing Stock—			
Foreign No. 1	1.65	@	1.75
Repacked	.02½	@	.03¼
No. 2	1.30	@	1.35
No. 3 (Roofing)	1.15	@	1.25
No. 4	1.00	@	1.15
No. 5A	.75	@	.85
B	.65	@	.75
C	.65	@	.75

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.12½
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11¾
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¼	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.06¼	@	.06½
No. 2 Kraft	.04¾	@	.05½
Common Bogus	.02	@	.02¾
Delivered New England points			
News Print Rolls	61.50	@	—
Straw Boards, rolls .009	52.50		
Straw Board in Sheets, basis 35s to 70s	54.50	@	55.00
Filled News Board	37.50	@	40.00
Chip Board	35.00	@	37.50
Single Manila Lined Chip	47.50	@	50.00
Single White, Patent Coated Newsboard			
Bender	65.00	@	80.00
Wood Pulp Board	80.00	@	85.00
Binder Boards	70.00	@	75.00
(F. o. b. Mill)			
Tarred Felts—			
Regular, carload lots	65.00	@	—

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	3.25	@	3.75
No. 2 Hard White	2.60	@	2.90
No. 1 Soft White	2.40	@	2.50
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	2.35	@	2.45
No. 1 Books, Heavy	1.50	@	1.55
No. 1 Books, Light	—	@	1.15
Manila Env. Cuttings	2.00	@	2.25
No. 1 Old Manila	.90	@	1.00
White Blank News	1.50	@	1.60
Old Kraft	1.75	@	1.80
Print Manila	.80	@	.90
No. 1 Mixed Paper	.45	@	.50
Overissue News	.70	@	.75
Old Newspapers	.55	@	.57½
Box Board, Chip	.55	@	.60

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	—	@	1.50
Manila Rope—			
Foreign	4.50	@	—
Domestic	—	@	4.75
Transmission Rope	—	@	3.00
Mixed Strings	1.00	@	—
Jute Wool Strings	1.00	@	1.05
Jute Carpet Threads	1.05	@	1.15
Scrap Burlaps	1.37½	@	1.50
Scrap Sisal	1.80	@	2.00
Scrap Sisal for shredding	1.85	@	2.00
Wool Tares, heavy	1.60	@	—
New Burlap Cutting	1.90	@	2.00
Australian Wool Pouches	3.00	@	3.12½

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1	.09½	@	.10
Silesias, No. 1	.06	@	.06¼
New Unbleached	.10	@	.10½
Fancy	.04	@	.04½
Washable	.04	@	.04½
Cottons—According to grades			
Blue Overalls	.06¼	@	.06¾
New Black, soft	.04	@	.04½
Khaki Cuttings	.04	@	.04¼
O. D. Khaki	.05	@	—
Corduroy	.03	@	.03¼
New Canvas	.08	@	.08¼

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.25
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Twos and Blues	2.75	@	3.00
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.75	@	1.90
Black Stockings	—	@	4.00
Roofing Stock—			
No. 1	1.65	@	1.75
No. 2	1.45	@	1.55
No. 3	1.05	@	1.10
No. 4	1.10	@	1.15

Foreign Rags
(F. o. b. Boston)

Dark Cottons	—	@	1.55
New No. 1 Shirt Cuttings	9.00	@	9.50
Dutch Blues	4.00	@	4.25
Lace Curtains	4.75	@	5.00
New Checks & Blues	4.25	@	4.50
Old Fustians	1.90	@	2.00
Old Linsey Garments	1.80	@	1.85

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.10¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¾	@	—
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
Book—			
No. 1 M. F. (carloads)	7.50	@	—
No. 2 M. F. (carloads)	7.25	@	—
No. 3 M. F. (carloads)	7.00	@	—
No. 1 S. C. (carloads)	8.00	@	—
No. 2 S. C. (carloads)	7.75	@	—
No. 3 S. C. (carloads)	7.50	@	—
No. 1 Coated and Litho	13.25	@	—
No. 2 Coated and Litho	12.25	@	—
No. 3 Coated and Litho	11.50	@	—
Coated tinted	14.50	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Wrap	5.25	@	—
"B" Manila	5.80	@	—
No. 1 Manila	6.65	@	—
Fiber	6.65	@	—
Kraft, M. F.	7.00	@	—
M. G.	7.00	@	—

(Delivered Toronto)

News, per ton—			
Rolls (contract)	61.50	@	62.00
Sheets	67.00	@	—

Pulp
(F. o. b. Mill)

Ground Wood	30.00	@	31.00
Sulphite easy bleaching	60.00	@	—
Sulphite news grade	60.00	@	—
Sulphite, bleached	77.00	@	78.00
Sulphate	60.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	3.00	@	—
Soft White Book Shavings	2.85	@	—
White Blk. News	1.60	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.40	@	—
Light and Crumpled Book Stock	1.25	@	—
Ledgers and Writings	1.50	@	—
Solid Ledgers	1.50	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.00	@	—
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PAPER TRADE JOURNAL

ESTABLISHED 1872

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

FIFTY-EIGHTH YEAR

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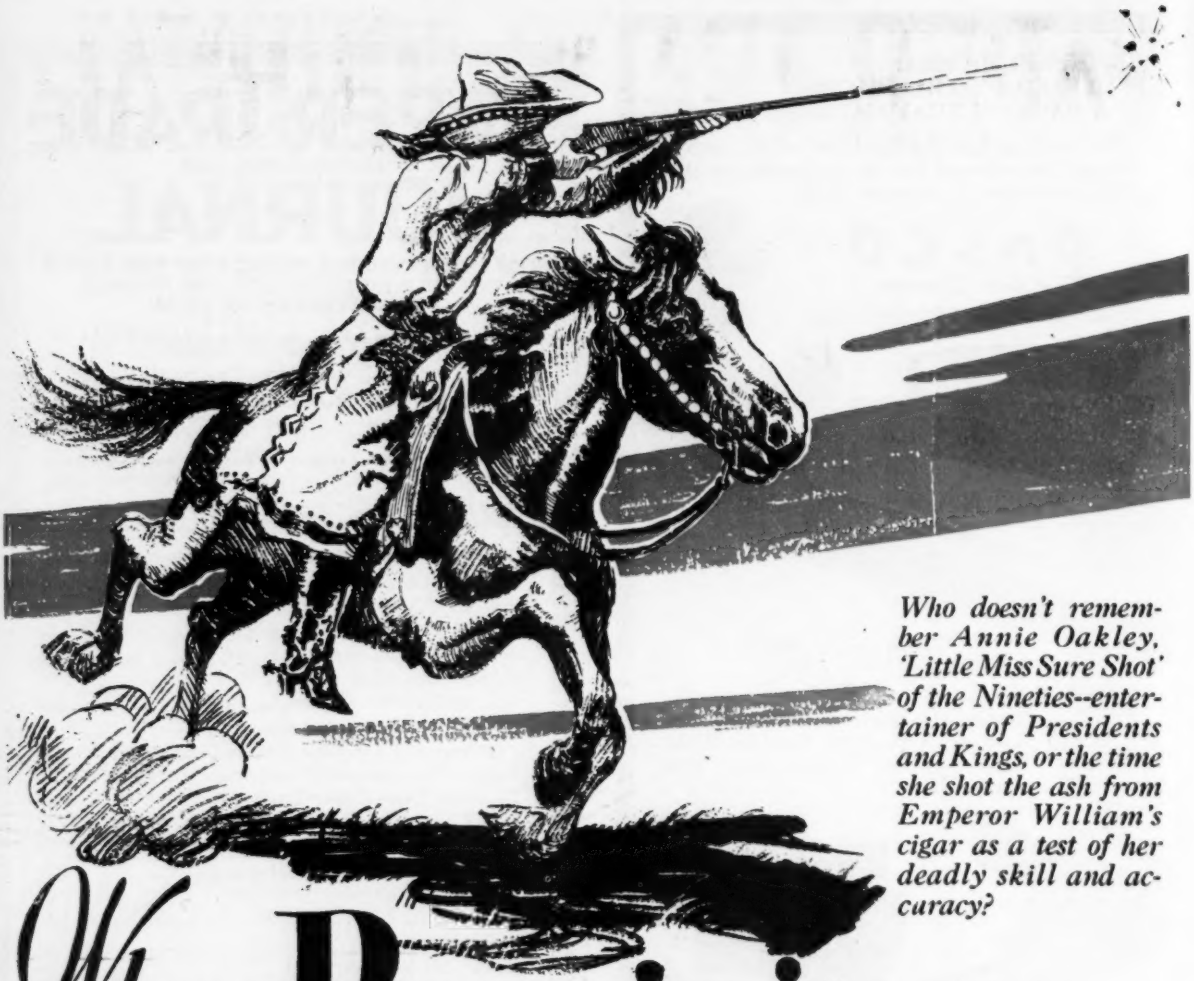
TABLE OF CONTENTS

Copyright, 1929, by the Lockwood Trade Journal Co., Inc.

Paper Mill Superintendents Hold Convention	21
Premier Taschereau Discusses News Print	22
I. P. Makes Improvement at Corinth	23
Send Wood Pulp to South America	23
Pennsylvania Mills Continue Active	24
General Electric Co. Installs Motors	24
Du Pont Cellophane Co. Changes	25
Conklingsville Reservoir Nearly Completed	25
Ontario Manufacturers Fairly Busy	26
Southern Paper Trade Elects Officers	27
Way Cleared for Big Development	27
Paper Demand Satisfactory in Boston	28
Chicago Paper Market in Good Shape	30
Indianapolis Demand Improves	30
D. C. Everest on Wood Utilization Committee	30
Construction News	32
Trade Mark Department	34
New York Trade Jottings	36
Paper and Paper Stock Imports and Exports	38
To Be Chief Cost Accountant	40
To Continue Production Control of Pulp	40
Editorial	**42**
Sutherland Paper Co. Issues Good Report	43
Paper Production Increases in August	43
Geo. S. Witham, Sr., Not to Retire	43
Technical Section	
Report on Physical Standards for Pulp	45
Thermo Dynamics of Drier Shell Heat Transfer	47
Measurement of Strength and Stiffness of Fiber Board by Means of Static Bending	50
United States Patents on Papermaking	53
Cost Section	**55**
Box Board Production for August	58
Racquette River to Get Russian Wood	58
Obituary	60
To Handle Hymac Bull Screen in U. S.	60
Imports of Paper and Paper Stock	62
New York Market Review	**66**
Miscellaneous Markets	**68**
Market Quotations	**70**

THE PAPER TRADE JOURNAL is indexed in Industrial Arts Index

Want and For Sale Advertisements, 71, 72, 73, 74



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